CALIFORNIA

OIL WORLD

TWICE-MONTHLY • SECOND ISSUE V.Y.L. #6 MARCH 1949

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OIL WORLD

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March 31st, 1949
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Washington Highlights

Interior Secretary Krug said at a news conference it may become necessary to develop oil-bearing tidal lands as Naval oil reserves, if there is a prolonged delay in settling the court dispute over ownership. He said the President has the authority to direct naval development of the undersea lands, ownership of which is in dispute between the Federal Government and the states. He stated he prefers the normal process of granting oil development leases to private operating organizations. But, he added, if the delays continue indefinitely consideration must be given action by the Government.

Demand for aviation gasoline during 1948 has been figured as approximately 43,000,000 barrels by the Bureau of Mines. This is a 61 per cent increase over 1947.

Additional Marshall Plan assistance to England was the gist of statement of the Economic Cooperation Administration to the Senate Foreign Relations Committee. Plans outlined indicated the United Kingdom would expend some $500,000,000 during the 1949-1950 fiscal year to hike petroleum production and refining capacity. Approximately $400,000,000 probably would be spent in the Middle East, Caribbean area, Holland and the Far East. The $100,000,000 remaining would be used to pay for construction of a large refinery in Southern England and also to expand present facilities.

The Federal Power Commission has requested the Supreme Court to duly review the action of the U. S. Court of Appeals for the Third Circuit which rejected the commission's application for injunction to restrain the Panhandle Eastern Pipe Line Company from moving forward with its plan to transfer some of its natural gas acreage to a newly organized production concern.

In the future jet bombers and fighters are going to use high octane gasoline in place of kerosene, according to rumors circulating here. The yarn, however, has been denied by the Armed Service Petroleum Board. The Board explained that the Navy and Air Force have been giving considerable thought to the supply problem embraced in storage and handling a number of different types of fuel under combat conditions. The problem is particularly perplexing as relating to airplane carriers. They are designing as a result airplane jet engines in a manner allowing the burning of light products with a low flash point, including high octane gasoline whenever necessary. Intentions are, however, to continue using a fuel in the kerosene range for regular activities.

On the basis of Congress' record so far the American people "bought another gold brick last November." Authority for this statement was GOP National Chairman Hugh D. Scott, Jr. "The 81st 'no-can-do' Congress has been in session for slightly more than two months and it has set a notable record for interparty bickering and inability to act." Scott's statement was issued by the Republican party national committee in association with an inventory of the pledges of the Truman administration.

Viewed generally as another step toward hemisphere security, a group of American oilmen has entered into a contract with the Mexican Government to drill for oil in Southern Mexico. The Mexican Government oil industry, Permex, made known an agreement has been signed permitting the sinking of exploratory wells on a contingent basis during the next 12 years. Signers of the contract were a number of independent United States operators. They were Edwin W. Pauley of Los Angeles, Samuel B. Mosher of Los Angeles for the Signal Oil & Gas Company, and Ralph K. Davies of San Francisco for the American Independent Oil Company. The American group is organizing the Mexican-American Independent Oil company to carry out the operations, which is designed solely as an operating instrument. It was announced that no other merger of their interests is planned. The agreement provides that the operators will be given half of the proceeds of the production of any wells developed until they are paid their expenses. They would in addition receive 15 per cent of the total received for oil for 25 years as profit. If they fail to strike oil, they obtain nothing whatever.

*At 18,734 feet,**

on The Superior Oil Company world's record depth well, Schlumberger made an electrical log in 3½ hours hole time.

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*Schlumberger made two runs below 18,000′ on The Superior Oil Company's Limoneira #1, the new world's record depth well. The first run was made at 18,110 feet and the second on March 13, 1949, at 18,734 feet. Both operations were carried out successfully as routine runs with regular Schlumberger surveying equipment and with a minimum of rig time. Only 3½ hours surveying time was required for each run. Performance of Schlumberger equipment on this new world's record well is proof again that Schlumberger is ready now for your 20,000 foot, or deeper, wells.

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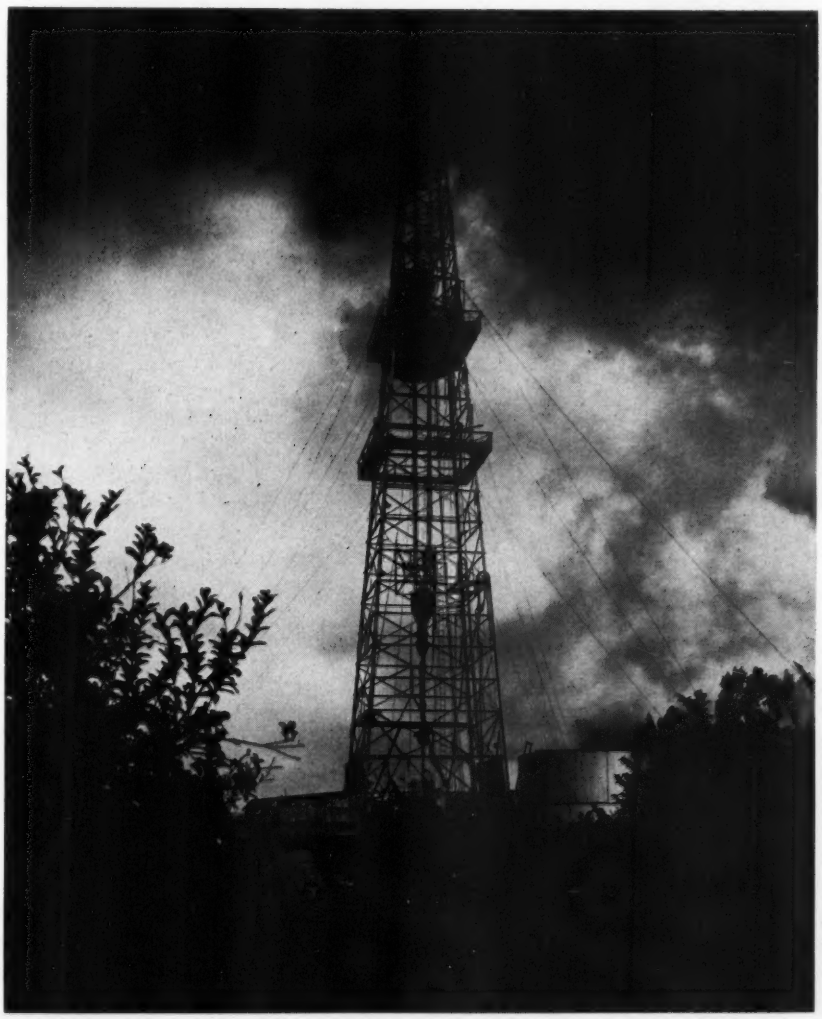
Superior Brings Depth Record Back to California

The Superior Oil Company has established itself beyond question as the petroleum industry's champion deep drilling institution. Not content with an already recognized and still unbroken record of 17,823 feet in its Weller No. 1 at Fort Cobb, Caddo County, Oklahoma, the Company's Limoneira No. 1 at North Montalvo, on the Teague lemon ranch near Ventura, California, has smashed the first record to pieces, and as this is written has just been abandoned at 18,734, with at the moment no indication of the reason for the stoppage. However with a string of this length weighing probably in the neighborhood of 350,000 lbs., a stoppage might come inadvertently at any time, and unless there were some very good reason to keep on drilling, the continued risk of a serious equipment loss would hardly be justified.

Superior has handled this project from the very outset with the greatest care and had excellent luck up to the last moment. It was pretty generally believed that the equipment used was capable of going down close to 20,000 ft., and engineers speculated widely, and in some cases wildly, on just how far the well would be carried. However, W. M. Keck, Jr., and his aides were noncommittal, and properly so, on that point. When the hole was down to 18,438 they were questioned as to the ultimate depth, and very clearly intimated that it would not be judicious to make any extravagant predictions. But they did make it known that the Miocene was only a few hundred feet ahead, and they hoped they would be able to get some penetration there before coming to any decision as to the final depth.

The Limoneira well, located on Section 9-2n-22w, was spudded on September 6, 1948, and was carried to its abandonment depth with amazingly little trouble, mechanical or otherwise, a tribute both to modern day equipment and the men who use it. During the course of the drilling six fishing jobs were necessary, all stuck pipe, all potentially serious, but all completely discounted by expert handling. The last fishing job was at 18,136 feet, on February 18, 1949. From 17,159 feet on, McCullough jars were used in the drill string and when the pipe stuck as above indicated, the string was backed off at the safety joint, some drill collars were added to give more weight, and the pipe was then jarred loose with little delay. All this took place below the bottom depth of the Oklahoma deep well, and, like everything else that happened on the Limoneira project after it passed the 17,823 mark, constitutes a new record—the greatest depth at which drill pipe was ever stuck—and freed.

Credit should be given in this connection to Superior Vice Presidents, W. M. Keck, Jr., John C. Cody, and R. M. Allan, Jr.; Petroleum Engineer Lew Rogers; Drilling Superintendent Lamon Corley; Drilling Foreman Mel Uffen; Jack Isberg, Chief Geologist; District Geologist George Wheatley; Mud Engineer Bud Jones; and the young looking but entirely competent



An artistic view of Limoneira No. 1, Superior Oil Co.'s world record deep well in the North Montalvo area near Ventura. It was bottomed at 18,734 feet, beating Superior's former Caddo county record well by a comfortable margin.

K. Compton, driller, shown watching the Martin-Decker Drilling Control Panel on Superior Oil Company of California, (18,734 ft. March 14, 1949) Limoneria No. 1 in East Montalvo area, Ventura County, California.

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drilling crews that conducted operations with the delicacy that they might have displayed had they been nursing an ailing child. Incidentally it might be mentioned that Lamon Corley was also drilling superintendent on the Caddo County deep well, so he has the distinction of drilling two world champion wells. It might also be remarked in passing that almost all of the men, who were on duty on the Limoniera well when it was abandoned, were also on the job when it was spudded. And, Bill Brown, the driller who was at the controls when this writer visited the well was a veteran, 25 years old, with some 2½ years of experience under his belt. Which shows that when properly tutored and duly impressed the youth of the present generation is certainly not all so delinquent as the reformists would have us believe.

The well was spudded with a 12¼" hole reamed to 17½" first to 1470 feet, and later to 1979 feet with a Security reamer. Surface casing, 13⅜ inch, was then set, as follows:

Size	No. of Joints	Footage	Weight	Designation
13⅜"	7	262.09	61 lbs.	J-55
13⅜"	9	308.21	54.5 "	J-55
13⅜"	34	1327.83	54.5 "	J-55
13⅜"	2	63.28	61 "	J-55
		1961.41		

This surface casing was Range 3, 8 Round Thread Spang Seamless, and it is to be noted that Baker Oil Tools, Incorporated furnished all shoes and floats.

Below the surface pipe, a 12¼ inch hole was drilled to 12,030 feet, and 9-5/8 inch, 53.50 and 47.60 lb. Extreme Line Spang casing was cemented at 11,204 feet. B & W Scratchers were used to prepare the hole for the 9-5/8 inch casing, and it was centered with Baker Oil Tools, Incorporated centralizers for the cement job. From 12,030 feet to the abandonment depth, the hole was 8⅜-inch.

Some excellent fresh water formations were encountered at comparatively shallow levels but the Schlumberger failed to log any oil sands. Briefly the main intervals were; from O to 2620 ft., fresh water sand and conglomerate; 2620—5750, mainly shale; 5750 to 18,438, interbedded sand and siltstone; and from there to bottom no information had been given out at the date of this writing. However while the well has been non-productive of oil, it has developed an experience that is priceless. Actually a well of this type is a laboratory in which all the deep drilling ideas of the engineers involved are tested under practical conditions. That the Limoniera well was carried to 18,734 feet without serious difficulty, is a testament to the soundness of the engineering principles that were applied; to the efficacy of the equipment that was used; and to the additional fact that the petroleum industry is mechanically ready to explore subterranean depths in the proximity of 20,000 feet. This, of course, means that a new sub-surface level has been opened to the search for reserves, and there is little doubt that in the course of time it will be thoroughly exploited.

One of the astonishing things about a well of this depth is the meticulousness with which the bit is held on a straight path, in view of the knowledge that an 18,000 foot string can whip back and forth like a rubber hose if it is not properly controlled. Some idea of this is indicated in the common speculation as to how many times the Kelly must be turned by the rotary table at the top before the bit begins to rotate at the bottom in a hole of this depth. You can get answers all the way from 2 to 40 complete revolutions. In any case it is to be noted here that a Martin-Decker Sealtite Weight Indicator to keep the driller apprised of the weight on the bit; a series of Eastman Single Shots to check the drift; and the manipulative know-how of the engineers and drilling crews in balancing rotation speed and weight to keep the bit from veering, were sufficient to finish the deepest hole in the world with negligible deviation. The deviation to 9000 feet was not more than 3°, and after that it never exceeded 2°. It is estimated that the accumulated drift was approximately 385 feet, and that the bottom of the hole is not more than

A consultation between G. Y. Wheatley, District Geologist; W. M. Keck, Jr., Vice President; Robert M. Allan, Jr., Vice President; Mel Uffen, Drilling Foreman.

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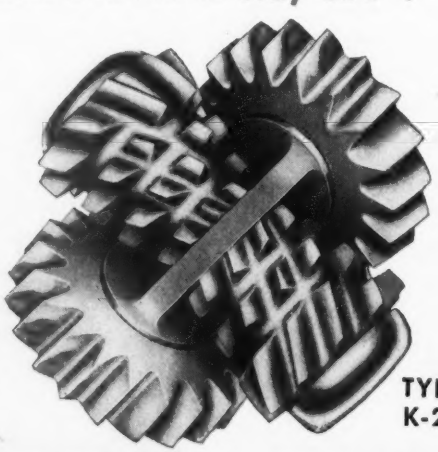

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200 feet off vertical.

It has been remarked that this well was drilled by very young crews under the direction of experienced technicians. In fact it was stated by W. M. Keck, Jr., that the average age of the men on the three tours was not much over 26 years, and that the oldest wasn't over thirty. This, of course, is in part possible because equipment is now so simple of operation, and so scientifically efficient that its operation is gradually becoming more and more automatic. In addition the generations of engineers, physicists, chemists, etc., who have devoted themselves to perfecting the techniques of drilling, have such a full understanding of the conditions with which they have to cope, and with what may be required to meet these conditions, that a course of operation can be charted in advance. Normally, thus, the drilling crews have a well prescribed routine to follow, and it is only when something unexpected or unusual develops that the petroleum engineer and other experts need to take a hand in the proceedings. This does not detract in any way from the excellent job done by these drilling crews—it takes men of intelligence as well as strength to perform properly and safely the prescribed routines to which we have referred, and the success of the young men who drilled Limoneira No. 1 is evidence that they had both of the essential attributes in good measure.

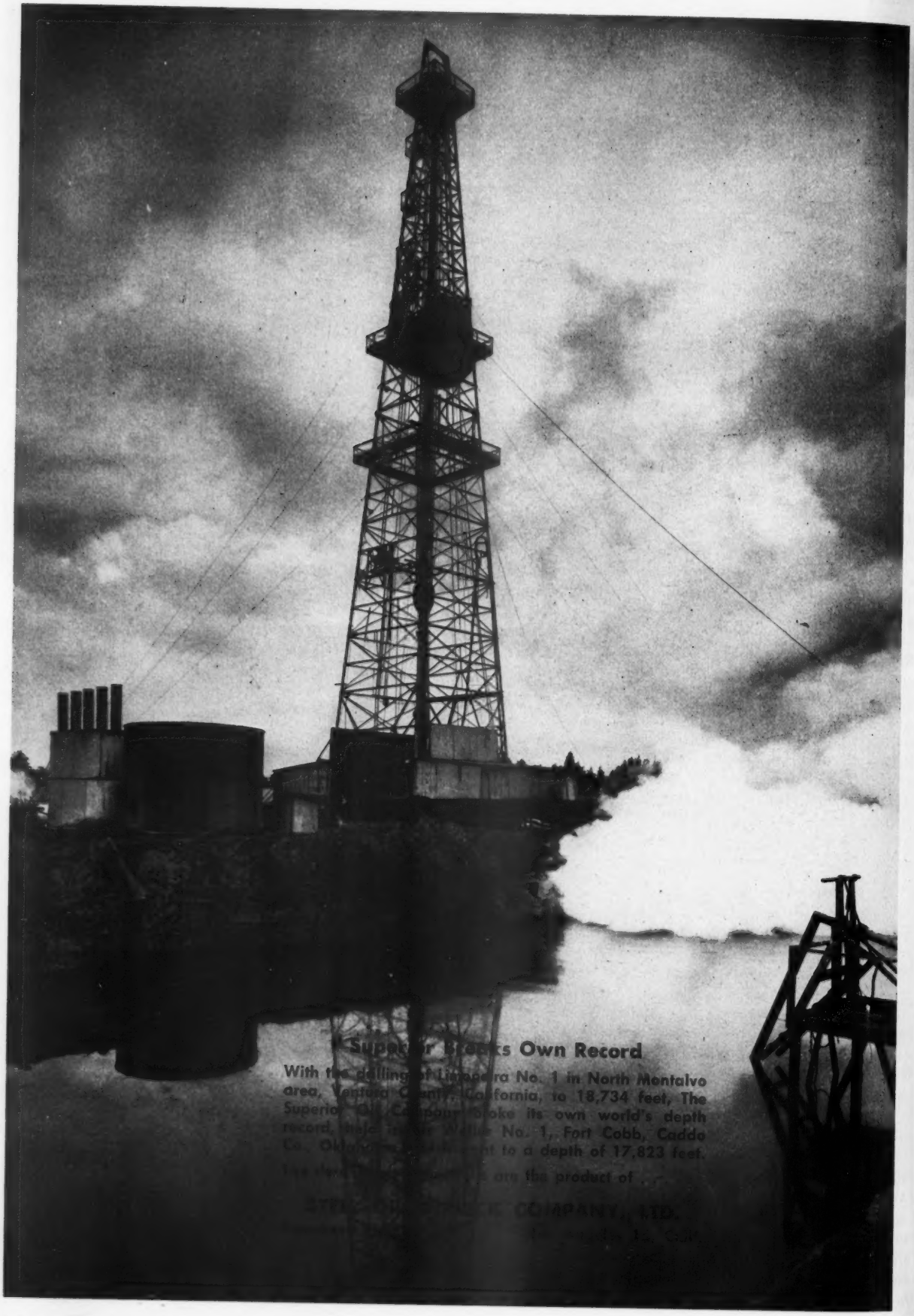
By the time the well had reached 18,438, at which time most of the data for this article were developed, some 2052 hours of drilling time had been spent on the job, for an average of approximately 8.83 feet of hole per hour. During that time the tools made 185 round trips in and out of the hole, and it might be mentioned that it took just about 12 hours to make a round trip at the lower depths, where it was necessary to handle about 150 stands of drill pipe, 120 feet long. The string also carried eight 35 foot collars with 5¾ inch full hole joints. From zero to 12,030 feet Security, Smith, and Reed bits were used, but from that depth to bottom Hughes bits were used. It is interesting, by the way, that the bottom hole temperature was 280° F, which might be expected to pose something of a problem for the mud engineers, but apparently it was not a problem too unsurmountable to be licked, for the few stuck pipe jobs that developed were handled with no great difficulty.

In drilling the 12¼ inch hole, 87 bits were used and five coreheads, and in drilling the 8⅜ inch section down to the 18,442 mark, 76 bits were used and 14 coreheads. Out of 290 feet sampled, 156½ feet or 53.4% was recovered. Coring time with conventional Dunlap Hughes Type J coring equipment was 85½ hours at a rate of 3.4 feet per hour. The deepest core recovered was a 7 foot section of shale and sands from 18,428 to 18,438 representing a 70% recovery, in approximately 5 hours. Footage at this time was running about forty a day. Coring at the depths mentioned also were a record performance since 18,438 was about 615 feet deeper than the Oklahoma deep well. The recovery percentage was also remarkably high considering the great depth at which operations were conducted.

It may be assumed that in no small measure the freedom from trouble, and the ease with which such troubles as did develop were handled, can be attributed to a carefully planned and well executed mud program. A light-weight, 80-82 lb., 40 viscosity, water base drilling fluid was used from beginning to end. It consisted of Mojave Corporation rotary mud with the requisite admixture of Macco P-95 clay; Halliburton's Gel-Oil, which contains about 15% of oil, to bring about complete emulsification and impart lubricating quality; and Macco's bentonite Wyojel to hold the viscosity and minimize the water loss. Bud Jones, the mud engineer on the job, apparently had the process well under control at all times, and the results well justified the constant attention that was devoted to this phase of the project.

There was one bit of trouble that

Lamon Corley, Drilling Superintendent talks things over with Chief Geologist, Jack Isberg.


Superior Breaks Own Record
With the drilling of Limoeira No. 1 in North Montalvo area, Ventura County, California, to 18,734 feet, The Superior Oil Company broke its own world's depth record. Prior record was Wilcox No. 1, Fort Cobb, Caddo Co., Oklahoma, drilled to a depth of 17,823 feet.
are the product of

The Grand Assembly: L. to R.: Lew Rogers, Pet. Engr.; Mel Uffen, drlg. foreman; J. F. Gorman, fireman; S. H. Staley, floorman; K. L. Compton, relief driller; Bill Brown, driller; M. Harris, extra fireman; H. L. Huddleston, floorman; D. L. Walker, derrickman; C. H. Pace, floorman.

occurred on November 18, 1948 when the depth of the hole was 12,030 feet and the casing became frozen at 11,209. Lane-Wells was then called into the picture and gun perforated a three-foot section between 11,115 and 11,118 feet with ten 1-1/16-inch holes. A Baker Model K magnesium alloy cement retainer was set at 11,093 feet in the 9⅝-inch, 53.5 lb. casing, and the section was then squeeze cemented through the perforations. Following this the balance of the hole was reduced to 8⅜-inch, uncased. It might be remarked here that in the loosening of the stuck pipe, as earlier described, at 18,136 feet mention was made of the fact that the string was backed off at the safety joint. This was a new piece of Shaffer Equipment, a release bumper sub and safety joint, and it did yeoman service under the strenuous conditions imposed.

It would be difficult to give too much praise to the men and the equipment responsible for this record shattering project. Some idea of the efficacy and speed with which it was carried to its ultimate conclusion may be found in a comparison with the Caddo County, Oklahoma, well which it deposed as the world's deepest. It took over a year to drill the Oklahoma well to 17,823 feet. The Limoneira well passed that mark on February 12, 1949, five months and six days after it had been spudded, and a month later had reached the 18,734 mark at which it was finally halted. Every precaution was taken to avoid trouble, and although the well stopped short of the Miocene formation and proved a non-producer, it was productive of sub-surface data and a general experience in deep drilling technique that will be invaluable in the future to both oil operators and equipment manufacturers. There is no doubt whatever that the decision to conclude the project was based on good common sense. The likelihood of finding oil must at least to some extent balance the risks involved in searching for it, and if Superior executives and engineers couldn't see enough promise to warrant continuation they were wise to cease. After all, drill pipe is still a scarce and expensive commodity, and when drilling below 18,000 feet, the prospect of a serious fishing job is never at any time remote.

Now discussing briefly the equipment that was used on the job, that is, such of it as has not been mentioned, the derrick was a 176′ x 32′ base McClintock Marshall unit, with an 11 foot sub-structure, and a capacity of 980,000 lbs. It was designed by William B. Tobin, president of Steel Oil Derrick Company, Ltd., fabricated by Bethelehem Pacific Coast in 1940, and has in the meantime been used to drill a number of wells in the Valley before being brought into use in the Limoneira well. William B. Tobin has been regarded as an authority on derrick structure for many years, and has long worked in close concert with Superior Oil Company in the resolution of its derrick problems. It speaks well for the designer's foresight and general understanding of the derrick function in all its aspects that this unit, built more than eight years ago—when present record depths were just a dream, is today able to withstand the tremendous stresses and strains imposed in the drilling of the world's deepest well.

The derrick was equipped with a

They helped, too: L. to R: J. M. Evans, floorman; A. J. Bateman, floorman; W. E. Blake, fireman; Carl Copeland, driller; W. L. Bowen, derrickman; C. L. Craw, floorman.

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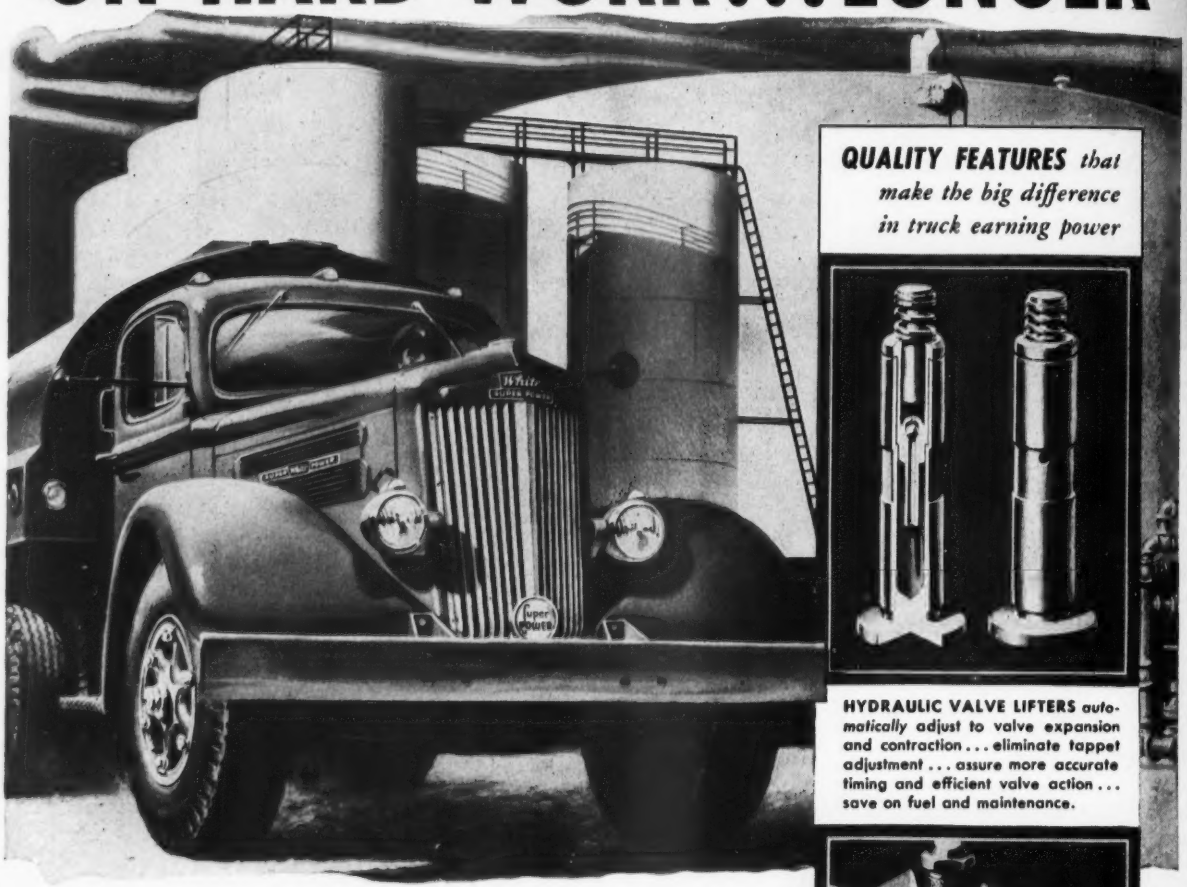

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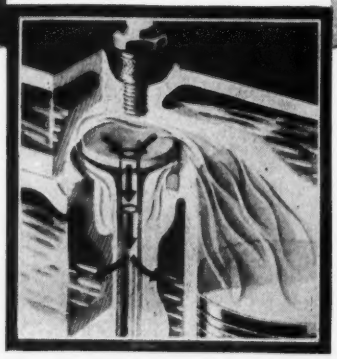

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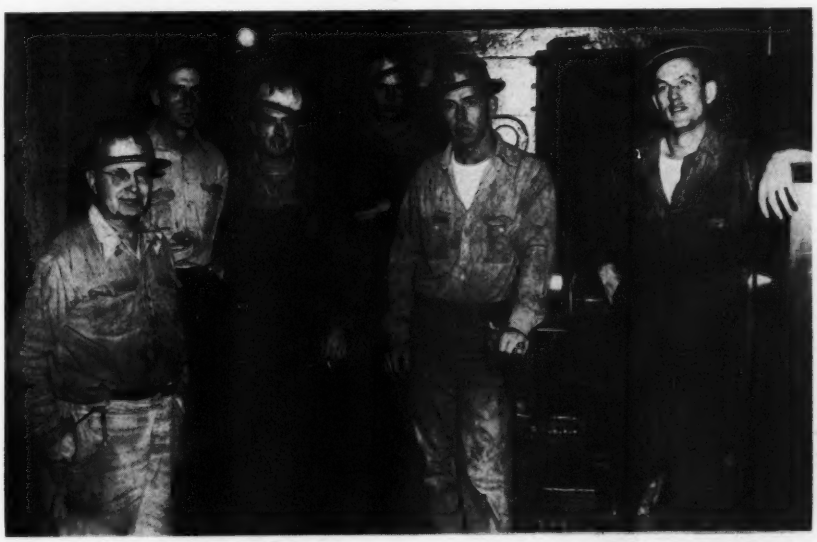
Regan, type E H, 7-sheave, 600 ton crown block, and a Regan 104-inch, type H, traveling block. Both of these were grooved for 1¼-inch line, and took excellent care of their respective functions. The wire line, supplied by Pacific Wire Rope Company, was as might be expected subjected to a more than usually severe strain, and took it all in stride. This was a 1¼-inch Pacific Super-Steel Equalized line of Standard Seale construction, with independent wire rope center. It was furnished in 3000 and 3500 foot lengths. The record for one 10-day period on this line shows a total of 9252 ton miles at a cost of 20 cents a ton mile, and some indication of the strenuous usage to which it was subjected at the lower depths may be gathered from the fact that between 17,062 and 17,992 feet, fifteen round trips were made in and out of the hole. Assuming that the well was making an average of 40 feet a day at the time, a somewhat generous assumption, this represents fifteen round trips in 23 days, which is a lot of travel when one considers that at 17,992 feet each round trip must have taken approximately 10 hours at least to complete.

The connector was an Ideal, type E-54 unit. Byron Jackson weldless links, 2¾" x 108", were used, and B-J heavy duty elevators. B-J power slips, hydraulically operated, and reducing the requirement of hand labor to a minimum, enabled the crews to trim the round trip time to the proportions already noted. B-J, type B tongs also aided the crews in carrying on operations smoothly, with practically no repair time, and an ease of manipulation that precluded undue fatigue among the men. An Ideal M 3 swivel constituted another important part of the equipment; the kelly was also an Ideal product — a 5-9/16" x 54' hex; and the rotary table was an Ideal, type SHS, 20½-inch table, shaft driven from Ideal standby drawworks. Varco supplied kelly bushings and Varco drill slips, both of which performed their duties adequately. Indeed, it is a remarkable fact that a project of this type was so free from equipment trouble of any sort. The great loads that were carried and the shocks and strains to which equipment is subject when drilling at such depths, even under the most careful handling, would incline to reveal every slightest weakness. But, as has often been said in these pages, so closely do operators and equipment manufacturers cooperate in the development of the techniques of drilling and production, that there is the fullest understanding of requirement as to the tools of the trade. This projects a logical and continuous improvement that is not haphazard but is soundly based on usage experience and the expansion of our knowledge of subsurface conditions and influences.

The main drawworks was an Ideal 33-62 unit, with air operated high-speed clutches; double-double 3⅛-inch chain engine drive on all speeds; 62-inch rims; 11¾-inch drum shaft; and 11-inch jack shaft. This was equipped with a 40-inch double Parkersburg hydromatic brake, and Foster Master break-out cathead. The drilling engine was an Ideal Ajax, 15" x 16", 500 lb., steam engine, of all steel construction. There was also an Ideal SD standby draw-works and rotary



More of the men who helped to make a world's record: L. to R: E. A. O'Dowd, fireman; N. E. Horton, floorman; L. W. Harp, floorman; Dairl Campbell, floorman; C. H. Nelson, driller; Guy W. Stacey, derrickman.

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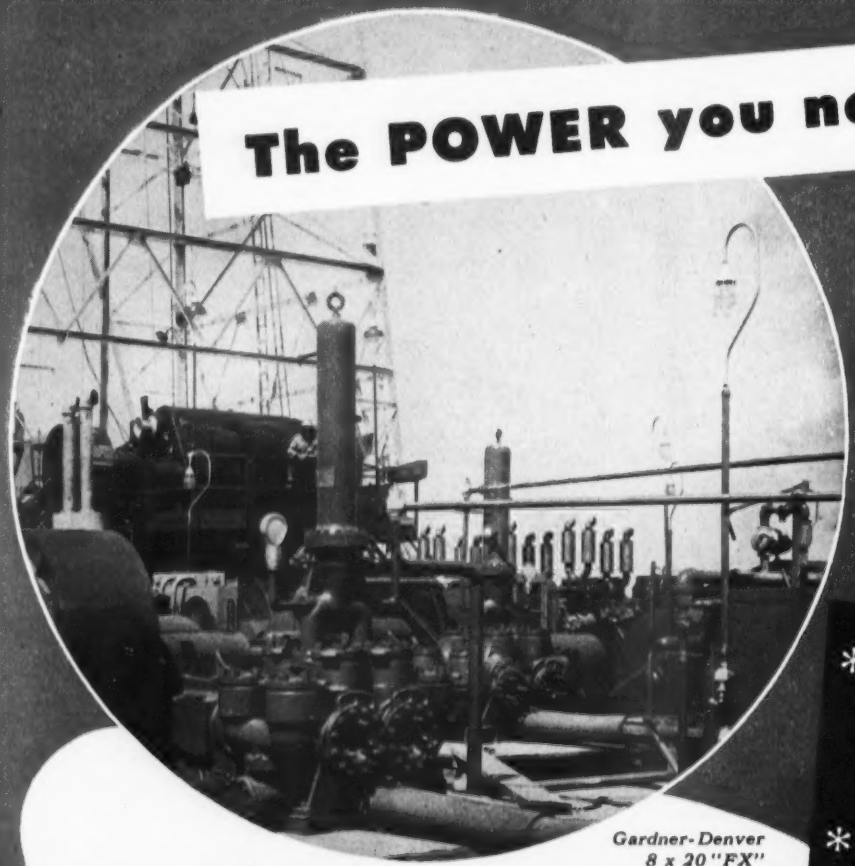

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- ✻ Automatic, controlled lubrication to power end working parts; grease packed Jackshaft roller bearings have pressure gun connections outside the frame.
- ✻ Continuous tooth-type Herringbone main gear and drop forged pinion.

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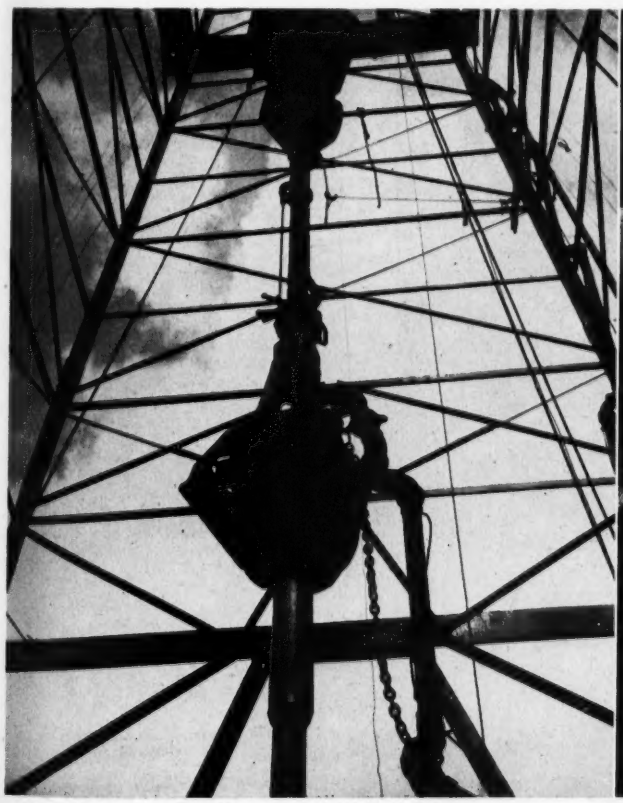
drive, with sandreel powered by an Ideal Ajax 12" x 12" engine. The engine throttle and reverse were designed for handling by hydraulic remote control, so that they could be operated from the standard position. The rig was further equipped with a Martin-Decker Sealtite Weight Indicator to furnish the driller with visible evidence of the weight on the bit at all times. Ideal Duplex 15½ x 9¼ x 22, Type S 950 pumps, all steel construction were used to handle the drilling fluids, and an Ideal 14½" x 7½" x 18" mud mixing pump was a highly important accessory. It might be pointed out that this entire rig has been in service practically as is and almost continuously since 1940, and it has been operated at a very low maintenance cost. As already stated with reference to the derrick, its success in this world's record project is an indication that the design engineers and equipment manufacturers are thinking beyond immediate need and projecting themselves well into the future. Here we have an 8 year old rig successfully and with comparatively little trouble drilling a hole that reaches reasonably close to 19,000 ft. With that an established fact, there is certainly no longer need to speculate on whether or not we are in a position to drill to 20,000. It would seem that very little adjustment is necessary to reach that step in the progress of drilling.

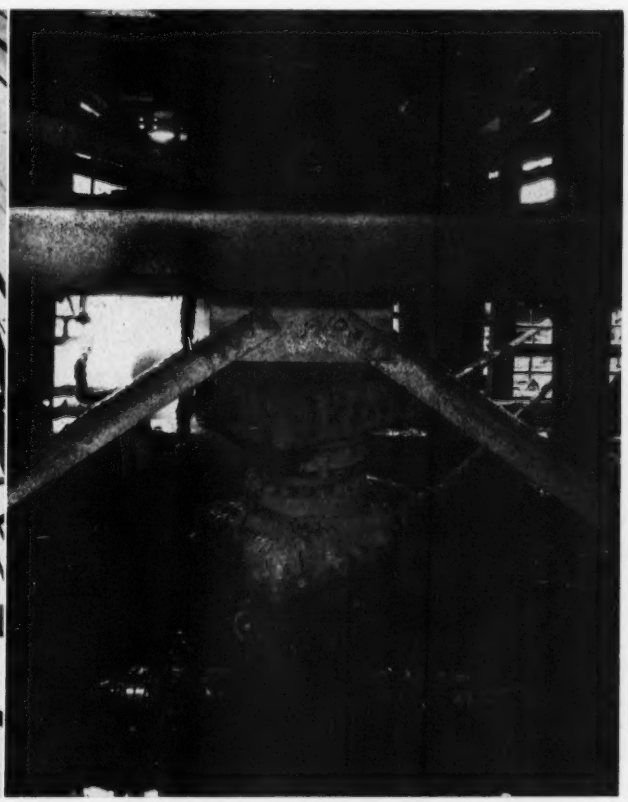
Returning again to a general consideration of the equipment a pair of Overstrom shakers were employed to filter the debris out of the fluid; Steel Oil Derrick Co., Ltd., provided the twin, all-steel, 200 barrel suction tanks; and Westinghouse Air Brake Company supplied an 11" x 11" air compressor. There were two blowout preventers — a Shaffer 13⅜" double gate unit, and a Hydril 13⅜" model R. Steam was generated on five Farrar and Trefts 500 W.P. all welded boilers with stack blowers and Sonner gas burners. Three Ideal 10" x 6¼" x 10" pumps supplied the feed water. As has already been noted excellent fresh water sands were found just below 1978 feet—they extended for some 1700 feet further down the hole, and in an area such as this which is heavily devoted to citriculture the water sands will no doubt be fully exploited at a later date. Four Zeolite Water Softeners were used for treating the boiler water. Electric generators were Palmer 15 KW, AC, units (2), driven by Turbolite steam turbines.

Rubber rotary hose was used while drilling the first 10,000 feet of hole, after which Chiksan steel hoses, 4½" x 55', were used until bottom was reached. The casinghead was a Regan Forge and Engineering Company, 13⅜" x 9⅝", 1500 series unit.

To drill the 17½" hole to 1979 feet, 5-9/16", 22.5, Grade D, Range 3, Spang drill pipe with API full hole tool joints was used. To 12,030, 12¼" hole was drilled with 4½", 18,10, Grade D, Range 3, Spang drill pipe, equipped with 6½" O. D. Hughes Flash Weld tool joints. After 9⅝" casing was cemented at 11,204 feet, a new string of 4½", 18.10, Grade E, Range 2, Spang drill pipe, equipped



View looking up the derrick showing the Ideal M3 swivel, and Regan 104", type H, traveling block. The latter is grooved for a 1¼" line.



This is a closeup of the blowout prevention equipment, consisting of a Shaffer 13⅜" double gate unit and a Hydril 13⅜" model R unit.

THE WORLD'S DEEPEST WELL

THE SUPERIOR OIL CO.'S LIMONEIRA 1, WILDCAT, 18,734 FEET ON MARCH 14

MEDEARIS BULLDOG DRILL PIPE AND CASING PROTECTORS WERE USED 100% IN DRILLING THIS WELL

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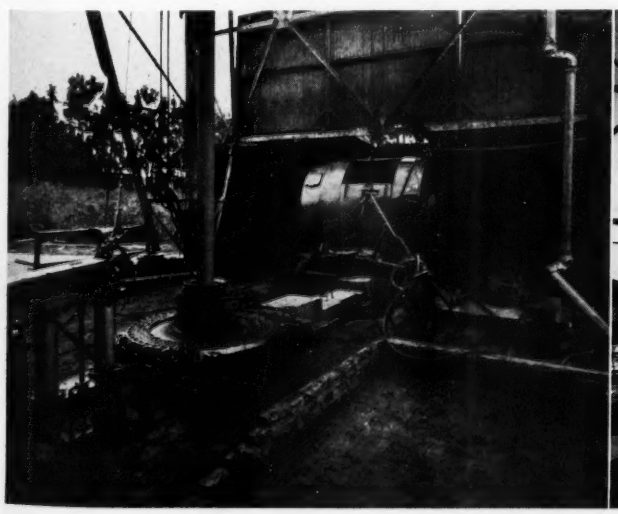
with 6⅛" O. D., National Double Seal shrink thread tool joints was used to drill 8⅜" hole from 12,030 to 17,400 feet. At this point, 12,200 feet of the afore-mentioned 4½" drill pipe was retained in the string and enough 3½" 15.50, Grade E, Range 3, Spang drill pipe, equipped with Hughes IF Flash Weld tool joints, was added to reach bottom. There were a total of 102 stands of 4½", and 46 stands of 3½" inch. To 12,204 approximately 300 feet of 7¾" x 40' Ideal drill collars were added to the string. After drilling on the 9⅝" shoe, approximately 250 feet of 6⅛" x 40 Ideal drill collars were used to 18,136 feet. At the latter depth, the drill collar was reduced to 5¾", using approximately 240 feet of 5¾" x 30' Baash-Ross collars.

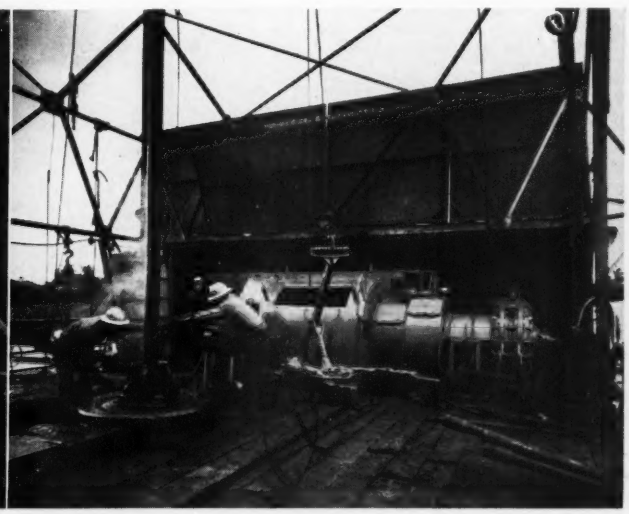
Others who played a part in the drilling of the Limoniera well were The Medearis Oilwell Supply Company, who furnished mixing tanks, Overstrom shakers, etc., for the mud control system, and Medearis Bulldog drill pipe protectors 100%; McCullough who furnished Magnatector service in some of the earlier trouble shooting and McCullough jars in the string when drilling from 17,159 feet down; Shaffer, whose new releasing bumper sub and safety joint was used below 9000 feet, and proved very effective. Then there was Halliburton, furnishing the cement for the surface string at 1979 the 9⅝" casing at 11,204 feet, and for one or two essential plug jobs; Permanente providing Hi-Test for the squeeze jobs at 11,115 to 11,118 through the perforations; Hughes, supplying the bits to carry on from 12,030 feet to the end, and Security, Smith, and Reed bits all contributing their share prior to 12,030 feet. There may have been others, that were missed in this roundup and if so we hasten to apologize. It has been our earnest effort to give mention to all who were involved, and certainly everyone who had a part is entitled to a share of the credit, but the drilling of an 18,734 foot well is a sizable project that employs endless skills, services, and equipment, and it would be very easy to overlook some highly important contribution.

It must again be emphasized that while fate decreed that this venture was not to be rewarded with a producing well, it was nevertheless a productive piece of work, the value of which lies in its educational value. The whole thing—producer or no—constitutes a research project in which the techniques of ultra-deep drilling as we now understand them, have been tested and experimented with, to determine their fitness for the job ahead. Limoniera No. 1 has also tested out our ideas of equipment efficacy, and no doubt has pointed out to the experts under whose control it was drilled, wherein lies our technical strengths and weaknesses: In what respect we are sufficiently advanced to continue and wherein we must improve to meet the problem of tomorrow. Every deep well develops new data on all phases of drilling and the sciences that are related to it. Each one increases for example our knowledge of sub-surface conditions, because each one imposes new difficulties against the securing of the data that reveals the nature of sub-surface materials and forces. When we know exactly what it is that interferes with the accuracy or frequency of our observations, either above or below ground, we are in a fair way to eliminate the interference. The oil industry is tremendously resourceful.

There was a time not too long ago when we had to rely for our information on instruments and theories that were not so precise or so logical as the ones we use today, and progress was correspondingly slow. But now the industry has a great research consciousness. There are at present available for the resolution of every technical problem an endless array of young scientists each grounded in some specific and highly essential phase of the business, and all representing a total of specialized knowledge that is almost fantastic. The industry now musters among its pertinent scien-



Ideal standby drawworks and rotary drive, type SD, with sand reel, powered by Ideal Ajax engine, steam, 12" x 12". This is equipped with remote control hydraulically for engine throttle and reverse, so that both can be operated from the standard position.



The main drawworks. National Ideal 33-62, with air operated high speed clutch; double Parkerburg hydromatic brake; and Foster master break out cathead. Drawworks has double-double 3¼" chain engine drive; 62" rims; 11¾" drumshaft; 11" jackshaft.

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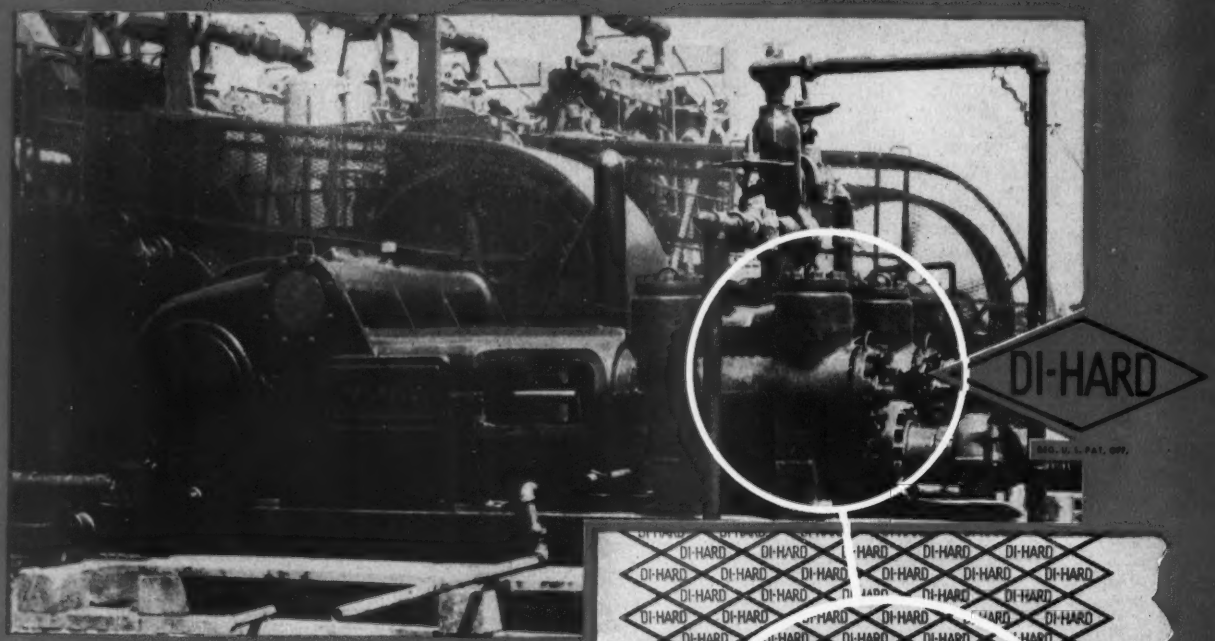

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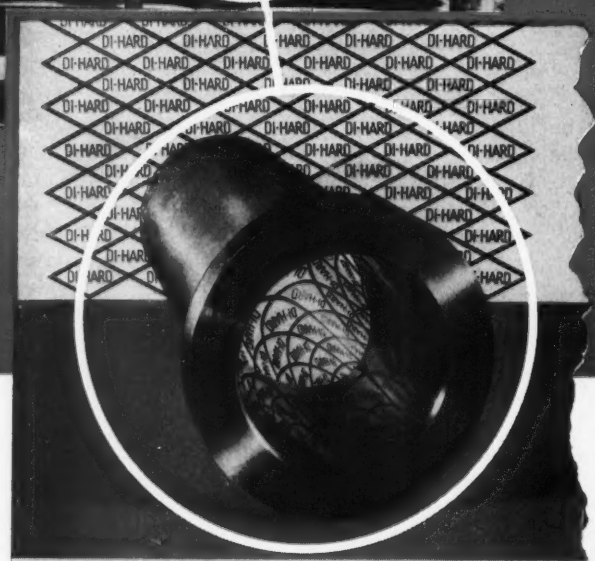

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SAVES MANY DOLLARS IN OPERATING EXPENSE . . . for DI-HARD metal has proven in the field that it has what it takes for best slush pump performance. Liners are held to close tolerances both inside and outside, thus assuring not only a good piston performance but also minimum fluid end washouts.

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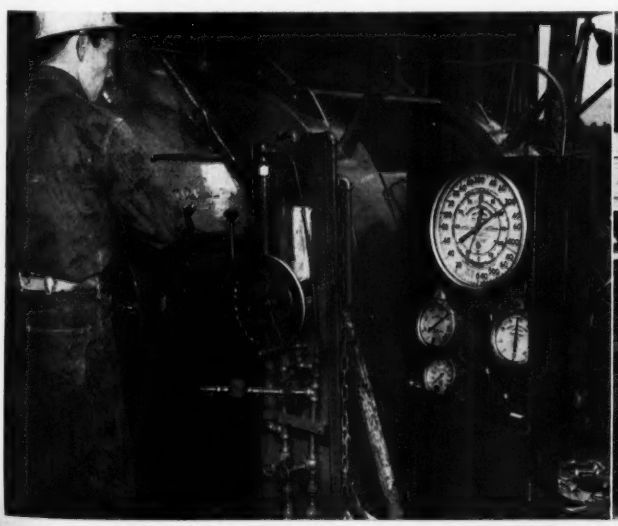
tific aides engineers of endless variety from mechanics majors to electronics; physicists, chemists, bacteriologists, biochemists, and a dozen other ologists all have a definite interest and place in the drilling process. That is why the drilling of a deep well such as Limoniera is certainly a fountain of useful information even if it never produces a barrel of oil. Of course, it is very much nicer if one can get both the oil and the information from the same hole. However, Superior Oil Co., regardless of the cost of this project, and it wasn't chicken feed, will yet benefit from its discoveries.

Simultaneous with the development of scientific data relating to the substrata, and the forces that exercise themselves in the various subsurface processes, the deep well advances in no uncertain measure the techniques and tools employed by the industry. Every foot that is added to existing record depths opens new realms of exploration for design engineers and equipment manufacturers. Nothing tests practicability like actual use under naturally imposed conditions. The laboratory can simulate such conditions when they are known, or define them by extrapolation when they are not, but in neither case is the actual situation ascertained with certainity. But, when equipment and tools are tried out in a well as in this case, the correlation of condition and use can be very accurate, and failures or weaknesses can be related to their respective causes with greater assurance.

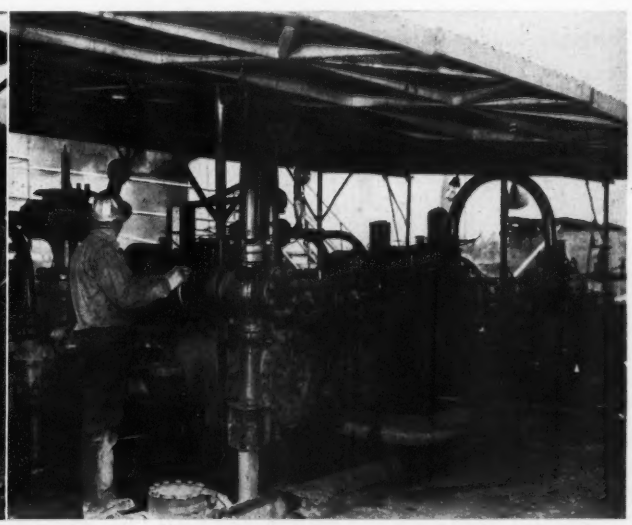
Besides the tools and equipment, another department that is markedly improved by this species of investigative or exploratory enterprise, is that of instrumentation. There are now many scientific devices for surveying the bore hole and for measuring the pertinent factors that influence the course of the drill, and the ultimate success of the project. When new and hitherto unreached depths are opened to observation as in the case of Limoneira No. 1, there is presented an opportunity to determine a whole set of new conditions, and at the same time to check the ability of available instruments and systems for determining these conditions. In all respects, indeed, it may be said that the extremely deep wells are stimulative of advance in every branch of the drilling art, and in every involved phase of the related sciences.

It can even be said that they give a shot in the arm to the petroleum industry, for a successful drilling project beyond the prevailing limits even if it does not strike oil, does open a new era of exploration, and brings within reach in certain localities at least, formations that have a good chance of being productive. In other words, if they can't be reached, they can't be produced—in fact, until they can be reached we are not even in a position to say whether they can be made productive or not. The successful drilling of deep wells by one operator also excites the competitive spirit in another, and if the latter can afford the risk he, too, is going to exert himself to a further perfection of the practice—not in such numbers and not so eagerly if the deep well aforementioned is a duster, but to some extent even so. If it is a financial as well as a scientific success, however, its stimulative effect will be immediate and far reaching.

In the case of Limoneira No. 1, it is interesting to speculate that its operational success, that is, the ability of the men in charge, from top executives to the boys on the derrick floor, to meet and to lick every single problem that showed up, may be attributable largely to the know-how, and to the self-confidence that came from handling the Caddo County well to a record shattering conclusion. There appears to be a certain super-caution that goes with deep drilling in its latter stages that can only come from experience in deep drilling. The driller, always fearful of sticking the pipe and perhaps getting into a tedious and expensive fishing job, picks the string very gingerly off the bottom when he is suspicious, turns it gently a time or two to make sure everything is still clear and well oiled,



Carl Copeland is here shown with his hands on the controls and his eye glued to the weight indicator and the other instruments that help him to know what is happening down below.



Steam end of the two Ideal 15½" x 9¼" x 22" slush pumps. At the far end is the mud mixing pump, an Ideal 14½" x 7½" x 18".

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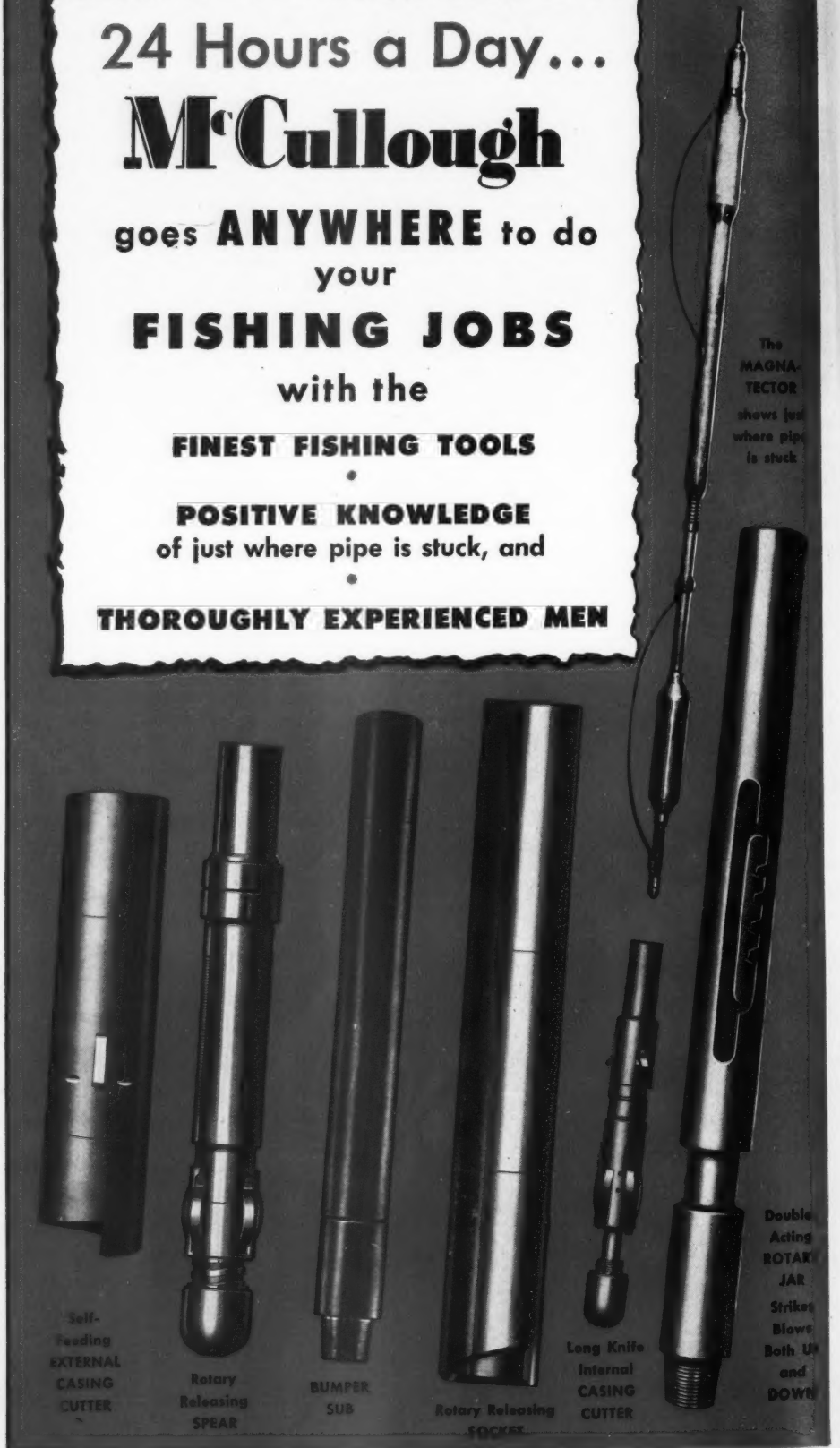
The MAGNA-TECTOR shows just where pipe is stuck
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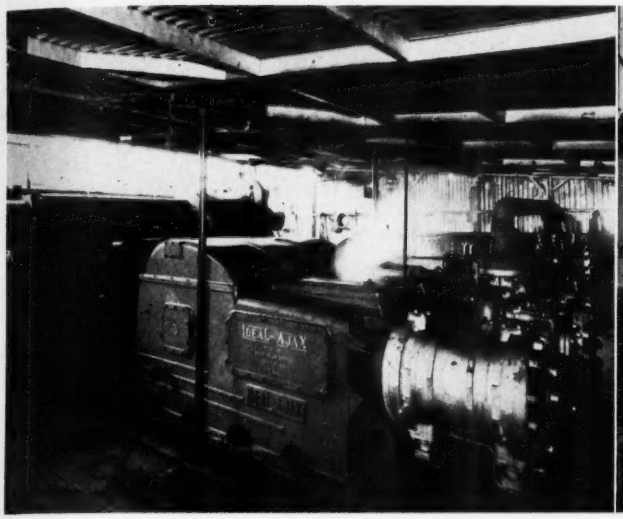
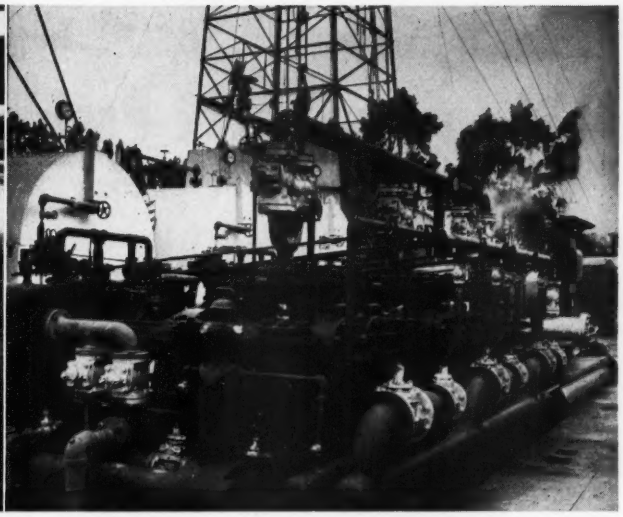




Side view of the Ideal Ajax, 15" x 16", Twin Drilling Engine, designed to operate on 500 lbs. steam pressure. This engine and the entire drilling rig has been in service for over 8 years. Boiler feed water pumps. These are Ideal 10" x 6¼" x 10" pumps. For the five Farrar & Trefts 500 lbs. boilers shown in the background. The boilers have stack blowers and are equipped with Sonner gas burners.

and then puts her back in place as gently as possible. If he isn't satisfied with that probe and still has the feel that all is not well down below—that there is some impediment to the free movement of the casing or the drilling string, he will back out carefully and do a reaming job. A little oil in the mud when the lower depths are reached help to lubricate the hole and at least reduce the liklihood of sticking. In any event, he learns to make every move as gently as it is possible to do so, and that appears to be highly essential to the success of a deep drilling project.

Limoneira No. 1 is now a closed book. As we go to press we learn that it has been plugged off to the satisfaction of all the authorities and has been capped and abandoned. Only the well has been abandoned however, the data that it developed will be pored over for many a day by the engineers, geologists, and all the scientists and technologists who had anything to do with it. Superior Oil Co. will be drilling other deep wells—deeper even than the world beating Limoneira No. 1, and when they do, it is a pretty sure thing that the experience and education derived from this adventure into hitherto unattainable depths, will help to make more certain the success of later efforts to achieve these deeper penetrations. Meantime, congratulations are in order to Superior Oil Company, its officers and personnel, for this excellent exhibition of executive administration and technical skill; also to the equipment and services organizations whose joint contributions have helped in no small way to make it all possible.

The first of six management institute conferences for oil executives in the Rocky mountain region was held in Casper Feb. 24 and 25. More than 30 oilmen attended the first conference, which was conducted by M. L. Powers of the department of engineering, Oklahoma A. & M. college, on the subject: "Functions of Management."

The second conference was held in Casper March 17-18 on the subject of "Personnel Problems in the Drilling Industry."

Those attending the six conferences, which run through July, are: A. F. Barrett, General Petroleum; Zack K. Brinkerhoff, Jr., J. E. Fletcher, drilling contractor; C. J. Rantt of Manning, Inc.; T. H. Harder, Stanolind; C. B. Hess, Ohio Oil Co. at Lovell; J. A. Jackman, Sinclair-Wyoming Oil Co.; Merle E. Morton, Morton Oil Co.; Orville Parker, drilling contractor; Everett J. Reaser, Continental; Charles C. Roripaugh, King Drilling Co., Lander; L. B. Stephenson, Noble Drilling Co.; M. E. Tate, Noble Drilling; H. A. True, Jr., Reserve Drilling; R. A. Wright, Sinclair-Wyoming; Frank Barrett, Ohio Oil, Rawlins; Fred C. Beleau, Stanolind; L. A. Bell, Sinclair-Wyoming; G. W. Berry, Casper; M. H. Brinkerhoff, drilling contractor; Douglas S. Brown, Reserve Drilling; Gerald Burgess, Ohio Oil at Powell; Gene B. Caperton, Morton Oil Co.; Dean Fox, General Petroleum; D. B. Harrall, Casper; R. M. Kobdish, Sinclair-Wyoming; D. C. Morton, Casper; R. E. Peu, Texas Co.; Bert Sager, Brinkerhoff Drilling; C. W. Sitton, Pioneer Drilling; William A. Smith, Noble Drilling, and Joan Thomas, Orville H. Parker Drilling Co.

Santa Cruz Test Listed

D. D. Dunlap Oil Company of Long Beach is planning to drill a wildcat well on properties leased along Newell Creek in the San Lorenz Valley, Santa Cruz County. Acreage involved in the leasing campaign is near the town of Ben Lomond. To the south, Standard of California and Texaco have obtained lease options of ground on the San Andreas Rancho near Camp McQuaide.

Gould Hills Wildcat Digs

Exploration has passed the 7300-ft. level in McCarthy Oil & Gas Company's Richardson No. 46 at Gould Hills, Sec. 7-29s-21e.

A.A.P.G. Joint Annual Meeting Highlights National And International Problems in Petroleum Geology

The 34th Annual Meeting of the American Association of Petroleum Geologists was held March 14-17, at the Jefferson Hotel, St. Louis, jointly with the 23rd Annual Meeting of the Society of Economic Paleontologists, and the 19th Annual Meeting of the Society of Exploration Geophysicists. Presidents Paul Weaver (A.A.P.G.); R. Dana Russell (S.E.P.M); and L. L. Nettleton (S.E.G.) presided over the respective groups. California representation added fifty delegates to the total of over 3,000 registrations.

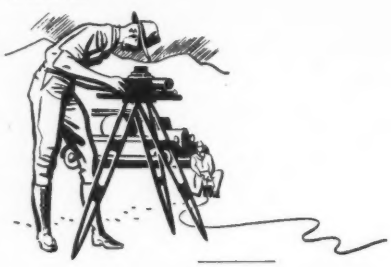
During the first day the presentation of honors was made. The A.A.P.G. President's Award went to Sherman A. Wengerd, Univ. of New Mexico.

A.A.P.G. Honorary Membership was awarded to G. Clark Gester, Standard Oil Company of California, with the citation presented by Roy M. Barnes. Second honoree was F. M. Van Tuyl, Colorado School of Mines, Golden, Colo., with the citation presented by Carroll E. Dobbin.

On Wednesday evening, March 16, the three organizations met in the Hotel Jefferson Gold Room to hear an address on Atomic Energy in Relation to Geology, by Sumner T. Pike, U. S. Atomic Energy Commission, Washington, D. C. The speaker was introduced by E. De Golyer. The technical meetings were concluded on March 17 with the Annual Dinner-Dance.

Research Committee Symposium

On the evening preceding the general technical sessions, the A.A.P.G. Research Committee Symposium was held on the Control of Oil and Gas Accumulation by Sedimentary Facies, with John T. Rouse presiding. Seven 15-minute papers were delivered, with each presentation followed by discussion. The subjects dealt with were: The Stevens Sand (Miocene), Southern San Joaquin Valley, California, by the Pacific Section Research Committee, E. L. Driver, Chairman; the Wilcox to Cockfield Sand (Eocene), Louisiana Gulf Coast, by Max Borehaueser; the Newcastle Sand (Upper Cretaceous), Wyoming, by H. E. Summerford, E. E. Schieck, and T. C. Hiestand; the Paluxy Sand (Lower Cretaceous), East Texas, by the East Texas Geological Society Research Committee, H. H. Lester, Chairman; the Hugoton Gas Field, Kansas, Oklahoma and Texas, by Garvin L. Taylor and R. J. Riggs; the Waltersburg Sand (Mississippian) of the Wabash Valley, Illinois, by David H. Swann; and the Facies Background of Appalachian Accumulation, by Frank M. Swartz.



Geology and Geophysics Problems

The geological interpretation of exploratory wells was reviewed by Paul Weaver, A.A.P.G. President, Gulf Oil Corp., Houston. Suggestions were presented as to the possibility of obtaining additional data which will aid in the interpretation of wells far outside of producing areas. R. Dana Russell, S.E.P.M. President, U. S. Navy Electronics Laboratory, San Diego, discussed trends in sedimentology during the past twenty years, and offered suggestions on research trends. L. L. Nettleton, S.E.G. President, Gravity Meter Co., Houston, considered the interrelationships between geophysics and geology in oil exploration with examples.

Gravity Surveys, Connate Waters and Limestone Reefs

E. A. Eckhardt, Gulf Research & Development Co., Pittsburgh, gave a world-wide review of geophysical activity during 1948. The precision gravity survey of the Jameson Area, Coke County, Texas, was described by Hart Brown, Brown Geophysical Co., Houston. Details of the survey, with subsequent field development were given. The paleo-temperature of Cretaceous and Jurassic was discussed by Harold C. Urey, Institute of Nuclear Physics, Univ. of Chicago.

M. R. J. Wyllie, Gulf Research & Dev. Co., Pittsburgh, gave the results of a statistical study of the accuracy of some connate water resistivity determinations made from self-potential log data. It was shown that the theoretical interpretation of the electro-chemical e.m.f. will give, on the average, the correct connate water resistivity only for S. P. kicks which refer to thick and relatively low resistance formations and ones which have little shale interbedding. Frank B. Conselman, consulting geologist, Abiline, Texas, and J. N. Conley, Seaboard Oil Co., Abiline, Texas, considered the limestone development in the Pennsylvanian of the Eastern Permian Basin. The paper presented the result of a study of limestone distribution within the major divisions of the Pennsylvanian series in the Eastern Permian basin of Texas. Areas in which limestone and other carbonates have been developed were shown graphically in their relationship to nearby areas in which clastics predominate.

The geophysical exploration for limestone reefs was discussed by F. J. Agnich, Geophysical Service, Dallas. Special emphasis is laid on the gravity meter and the seismograph.

Exploratory Drilling

Exploratory drilling in the U. S. and in Canada during 1948 was summarized by F. H. Lahee, Sun Oil Co., Dallas. The report will appear in full in the June, 1949 issue of the A.A.P.G. **Bulletin.** This was followed by a review of the conditions surrounding Weeks Island, Iberia Parish, Louisiana, by Ernest G. Robinson, and Frederic B. Loomis, Jr., Shell Oil Co., New Orleans. The continental shelf exploration

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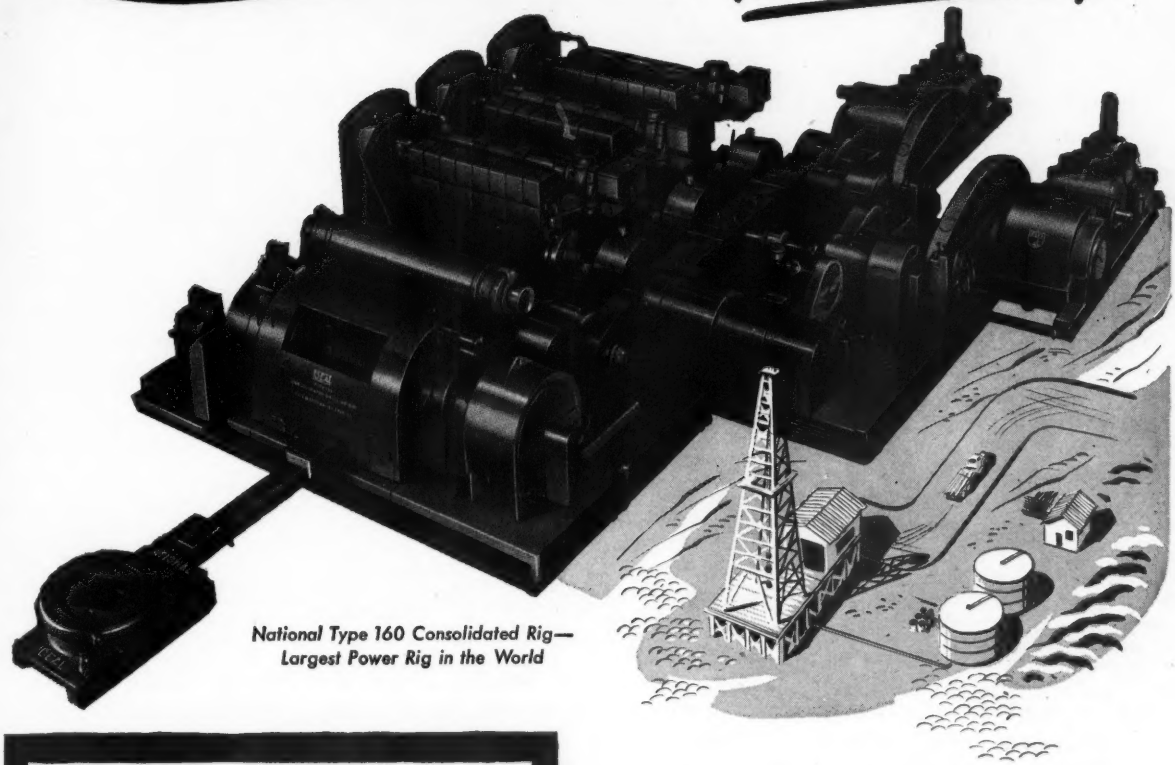

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50	5,000 ft.—4½" D.P.
75	7,500 ft.—4½" D.P.
100	10,000 ft.—4½" D.P.
125	12,000 ft.—4½" D.P.
160	16,000 ft.—5" D.P.
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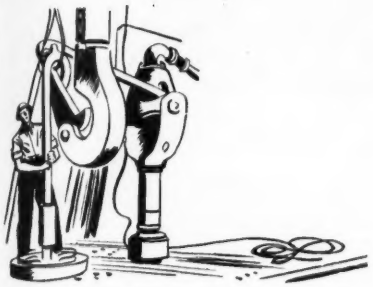


off Louisiana and Texas was considered by Dean A. McGee, Kerr-McGee Co., Oklahoma City. It was explained that the continental shelf in the Gulf of Mexico comprises 200,000 square miles. Of this area, 51,000 square miles lie off the Louisiana and Texas coasts. Exploration to date off the Louisiana coast has resulted in the discovery of four oil fields, three gas condensate fields, and one dry gas field. No discoveries have so far been made off the Texas Coast. Approximately 2 million acres of leases are in force off the Louisiana coast and 2½ million off the Texas coast. A great many salt dome prospects have been found and are under lease off the Louisiana and Texas coasts.

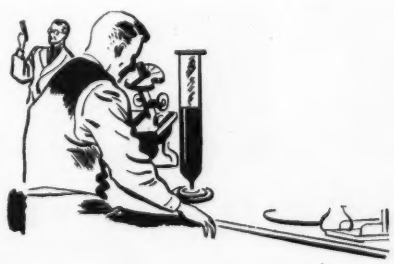
Exploration policies in Kansas during the period 1929-1948 were reviewed by Edward A. Koester, consulting geologist, Wichita. This was followed by a description of the Mayfield Pool, Cuyahoga County, Ohio, given by Howard E. Rothrock, U. S. Geol. Survey, Washington, D. C. This part of the program was concluded with a report by E. W. Krampert, consulting geologist, Casper, Wyo., on commercial oil from the Cambrian beds in the Lost Soldier Field, Wyoming. It is the author's opinion that the oil produced at Lost Soldier and Wertz from the Cambrian is not indigenous to that formation, but has migrated laterally from younger oil-bearing formations.

Symposium on Reefs

This part of the joint program opened with the definition of a reef, by W. B. Wilson, Gulf Oil Corp., Tulsa. A reef was defined to be a sedimentary rock aggregate, large or small, composed of the remains of colonial type organisms that lived near or below the surface of water bodies, mainly marine, and developed relatively large vertical dimensions as compared with the proportions of adjacent sedimentary rocks.

The organisms, generally corals and algae and less commonly crinoids and bryozoa, creating the essential features of a reef lived their mature lives on it and their hard parts remain in place there after death. Reefs tend to develop as mounds or ridges but also grow in irregular, asymmetrical forms. In all cases, however, a rigid framework is developed that does not compact under weight of overburden. This framework enables a reef margin to grow upward and outward at much steeper angles (even vertical) than is the case with sedimentary clastic rocks. Reefs are commonly characterized by lack of well developed stratification. Differential settling in rocks adjacent to them usually causes draping of stratum over reefs. The extra weight of reefs may cause downward bending of strata under them. Clastic materials or chemically precipitated sediments may be substantial constituents of reefs but are not distinctive parts of them.

Discussing the problem of reefs in the organic column, W. H. Twenhofel, Orlando, Fla., considered the several definitions and meanings of the word "reef," and the application of the term of "bioherm" proposed by Cumings and Shrock. Following this, Harry S. Ladd, U. S. Geol. Survey, Washington, D.C., discussed modern reefs, reef-building organisms, effect of temperature upon reef growth, and reef thickness. F. R. S. Henson, Iraq Petroleum Co., London, then gave some observations on Cretaceous and Tertiary reef formations and associated sediments in the Middle East. The author explained that, in



the Arabian foreland, the reefs grew in sub-littoral zones and on submerged highs of eperic seas in which deposition of the globigerinal chalk-marl facies predominated, with fore-deep clastics confined to folded marginal belts.

Reef Symposium Concluded

The symposium on reefs was concluded with three additional reports. Robert F. Imbt, consulting geologist, Fort Worth; and S. V. McCollum, Continental Oil Co., Fort Worth, discussed the Pennsylvanian reef at the Todd Field, Crockett County, Texas. This was followed by an explanation of the theory of transgressive and regressive reef (bioherm) development and the origin of oil within them, by Theodore A. Link, geologist, Toronto and Calgary, Canada. The concluding paper considered the Devonian dolomitized reef, D-3 reservoir, in the Leduc Field, Alberta, Canada. It was presented by W. W. Waring and D. B. Layer, Imperial Oil Co., Ltd., Calgary.

Foreign Papers

S. Froes Abreu, Mineral Industries Div., Rio de Janeiro, Brazil, discussed Brazilian oilfields and shale reserves. The Devonian and Mississippian stratigraphy of the Wapiti Lake area, British Columbia, was described by Laudon, Diedrick, Grey, Hamilton, Lewis, McBee, Spreng and Stoneburner, Univ. of Wisconsin. The Salina-Guelph fields of southwestern Ontario were discussed by W. A. Roliff, Imperial Oil Co., Ltd., Toronto.

The Bahamas deep test was discussed by Maria Spencer, Bahamas Oil Co., Ltd., Nassau. This was followed by a review of the geology and exploration activities in Magallanes Province, Chile, by C. R. Thomas, Punta Arenas, Chile.

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Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

Proved reserves of crude oil in the four Rocky Mountain states of New Mexico, Colorado, Wyoming and Montana were placed by the American Petroleum Institute at 1,752,420,000 barrels as of Dec. 31, 1948.

This was an increase of 46,082,000 barrels over the 1947 figure of 1,706,338,000 barrels listed for the four state region.

To this latest reserve figure might be added an estimated one million barrels of crude for Utah, latest to join the column of oil states.

All of the mountain states, save Colorado, showed substantial gains in proven reserves. Colorado registered a loss of 16,424,000 barrels, due largely to increased production in the Rangely field which was deducted from the reserve figure.

Wyoming led with a reserve figure of 715,787,000 barrels, an increase of 36,476,000 over the 1947 total. New Mexico was second with 552,231,000 barrels, an increase of 21,748,000. Montana increased 4,282,000 barrels to a total of 118,944,000.

The Rocky Mountain states followed the national trend in which proved reserves of crude oil and natural gas liquids rose more than two billion barrels in 1948. This was the biggest one-year increase in a dozen years.

Assisting in compilation of the figures for the Rocky Mountain region were W. S. McCabe of Stanolind Oil and Gas, and R. W. McCanne of Ohio Oil Co., both of Casper.

Oil men in the Rockies were pinning their last hopes on the Colorado state senate to block a proposed five per cent severance tax approved by the house ways and means committee. Senate opposition blocked a similar, though more reasonable (two per cent) severance tax in Wyoming at the last session of the legislature.

If the measure passes the Colorado state senate, there is little doubt but that Governor W. Lee Knous will sign it. He has campaigned vigorously for a severance tax which is not a substitute for existing taxes, but an added burden on the oil industry.

This compares with a two per cent severance tax levied on New Mexico production.

Oilmen are of the opinion such a punitive tax measure would encourage greater exploration and development in Utah, Wyoming, Montana and New Mexico at the expense of Colorado.

The state's press is largely in favor of the severance tax. Said the Denver Post, editorially:

"Delay will be urged, as it was successfully urged upon the Wyoming legislature. But delay means two years more of the withdrawal of non-replaceable resources without any adequate tax return. If a severance bill will be right and proper two years hence, it is right and proper now. The Post believes it is fully justified legislation."

The Post also called for inclusion of natural gas in the provisions of the law and pointed out that the present ad valorem property tax on oil "is not a scientifically correct or realistic basis for assessment of true or full cash value."

In New Mexico, spokesmen for the oil industry joined the coal industry and other mining interests in opposing a proposed increase of one per cent in the state's severance tax, leading to a total of three per cent.

Arthur McQuiddy of Roswell, executive secretary of the New Mexico Oil and Gas Association, said the oil and gas industry has reached a saturation point in taxes.

"The three per cent tax on oil and gas production," he said, "would force some companies to halt their operations in new fields."

McQuiddy pointed out that the oil industry last year paid 91 per cent of all severance taxes collected in New Mexico.

During the calendar year 1948 severance taxes amounted to $2,452,580.93, the severance tax division bureau of revenue in New Mexico reported. The previous year total was $1,486,248.61. Of the total, oil and gas paid 91.74 per cent; potash 6.48, metals 1.41, coal .35, and timber, stone and carbon dioxide .02 per cent.

Wyoming

Drilling of deep ventures for higher gravity crude in the Rocky Mountain region was stimulated in mid-March by discovery of a second pay zone in the wildcat test drilled by Phillips Petroleum Co. and Pioneer Oil Corp. at Golden Eagle field, in Hot Springs county, Wyoming.

Golden Eagle went on the "gold standard" when the deep test found 48 gravity oil in the Tensleep sandstone at 9,336 feet after previously testing 42.8 gravity light amber green oil from the Embar between 9,055 and 9,073 feet.

A 10-hour drill stem test in the deeper Tensleep zone gauged an average flow of 22½ barrels oil per hour. Plans call for deepening in the Tensleep for completion. Previous production in the field 35 miles west of Thermopolis came from the higher Dakota and Muddy sand zones.

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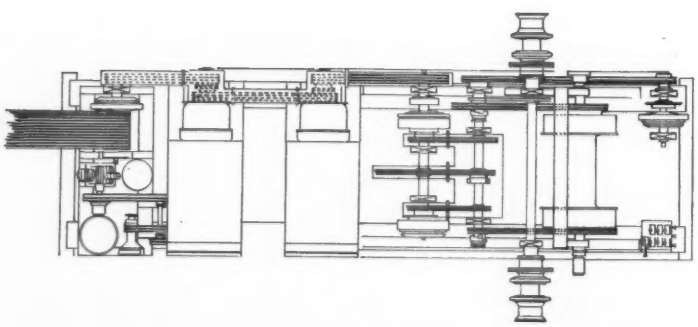
AIR CONTROLLED SPEED

You have seen the Wilson Giant TORCAIR Rig with one engine NOW SEE—the same rig powered with *two* engines for deeper drilling—all air-controlled with Wilson Airtube clutches—Engines are equipped with torque converters for smooth flowing power.



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EXCLUSIVE WEST COAST DISTRIBUTOR OF WILSON MANUFACTURING COMPANY, INC.

The discovery lent optimism to General Petroleum's newly announced venture in the South Frisby block of 8,000 acres adjoining the southeast side of the Worland field in Washakie county. The General Petroleum wildcat in section 24-47N-92W will test Embar and Tensleep at estimated total depth of 10,500 feet.

Since the war, General Petroleum has made new field discoveries in Sand Creek and South Fork, both in Washakie county. The second South Fork well, down structure from the discovery, was completed recently for a potential of 150 barrels oil per day. In South Frisby, General Pet. hopes to duplicate the success of Pure Oil Co. in developing the fastest growing field in the state. Production is averaging more than 7,000 barrels per day from the Embar lime, around 10,000 feet.

Stanolind Oil and Gas Co. caught the headlines early in March with proof of prolific deep production in the Beaver Creek gas field in Fremont county. Beaver Creek, for many years producing natural gas from the Lakota sand, looms as a new important oil field in the state following Stanolind's completion of No. 11 unit for an estimated 500 barrels per day of 45.6 gravity oil from the Tensleep formation, logged at 10,442 feet. The venture tested 237 barrels in 12 hours through choke, from a 450 feet zone of saturation. It was originally scheduled as a Madison test.

Beaver Creek lies a few miles northwest of the Big Sand Draw field, originally a natural gas field which also developed deep oil production in the Tensleep. Eight Tensleep wells in this field, owned by Sinclair-Wyoming Oil Co., are now producing a daily average of 7,000 barrels.

In the same northwest trend, Atlantic Refining Co. has made a new Tensleep discovery at Riverton. The firm has set seven inch casing on top of the Tensleep, at 11,661 feet, with the hole at 11,880 feet, total depth. Cores showed well saturated sand, with portions of the formation hard and tight. Although a drill stem test failed to make commercial recovery in the Tensleep, it is believed that with shooting and swabbing the Riverton well may prove as productive as Stanolind's new discovery in Beaver Creek, to the south.

Hunts Oil in Canada: Walton H. Hohag, geophysicist for Socony-Vacuum Oil Co., is in charge of the company's exploration activities in western Canada, with headquarters in Calgary. He formerly was geophysicist for General Petroleum in the Rocky Mountain region.

Attention also focussed on the northeast corner of the state, the area of greatest drilling activity. Recently Orville Parker and C. B. Simmons of Casper tested high gravity oil at the rate of 10 to 15 barrels per hour from the Newcastle sand, between 2934-2940 feet, in an outpost venture south of the Skull Creek pool.

Skull Creek came into the picture only last year when Brinkerhoff Drilling Co. brought in the discovery well at No. 1 Mandell in section 3-44N-62W for a flow of 288 barrels daily thru quarter inch choke.

A block of 720 acres between Mush Creek and Skull Creek pools has just been acquired by L. W. Winkler and Son of Denver on a farmout deal. Four wells are planned in this block.

Operations have been resumed throughout the Mush-Skull-Fiddler Creek areas on the northeast side of the Powder River basin after a two-month shutdown caused by severe winter weather. Two good completions were reported in Fiddler. Union Oil Co. of California's No. 2 Egert in 19-46n-64w, an east offset to the discovery well, flowed 14 barrels an hour from the Newcastle between 4510-4531 feet. Trigood Oil Co.'s extension at No. 1 Thompson in 13-46n-65w made 900 barrels of oil per day from the Newcastle zone between 4565-72.

Interest in the entire area is stimulated by the news that The Texas Co. has applied for a permit to build a $3,500,000 pipe line to Casper, which would assure a year around market for the growing production of high gravity crude. Conversely, an increased supply of lighter crude for the Texas refinery at Casper might put another crimp in the outlets for heavy, black asphaltic base crudes produced in western and northern Wyoming.

Continental Oil Co. has abandoned the interesting wildcat at Afton in Lincoln county, near the Idaho line, after encountering steep vertical dips up to 85 degrees at total depth of 5108 feet. The test was scheduled for 9,000 feet. Continental is considering skidding the rig to drill another test on the structure.

Superior Oil Co. is drilling below 17,350 feet on its Pacific Creek wildcat in Sublette county, the deepest ever drilled in the Rocky Mountain region. At this depth, the hole should be nearing the Frontier, first potential oil producing horizon. Information on the well is held tightly.

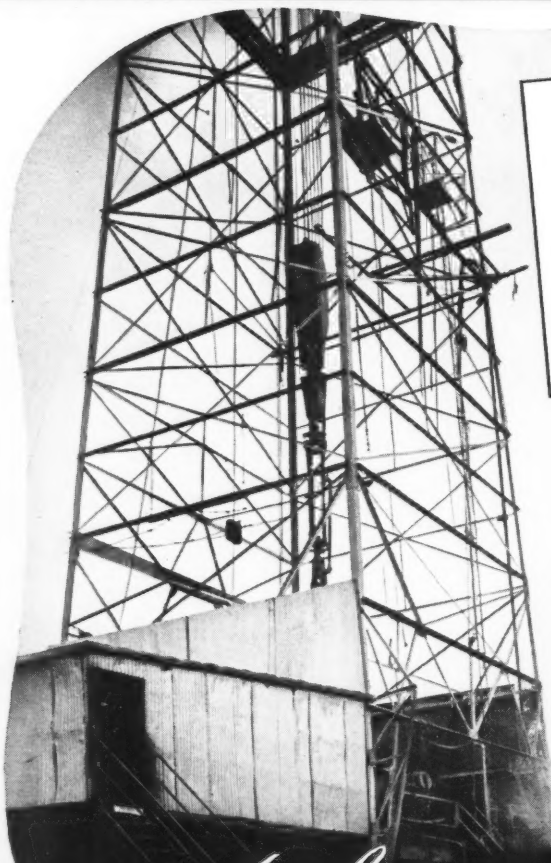
At Hell's Half Acre, Natrona county, Ohio Oil Co. is drilling below 5,500 feet after recovering gas cut mud in the Frontier in several drill stem tests.

Pure Oil Co. has set surface pipe on its third West Poison Spider well in Natrona county, one mile west of the world's deepest producing well now flowing from the Frontier at total depth of 14,309 feet. The new venture will test Mesa Verde, around 9,200 feet, on the way down. Mesa Verde was productive in the second well on the structure, notable for being the only Mesa Verde producer of any consequence in the Rocky Mountain region.

New Mexico

Oil and gas leases on about 1,300 acres of Ute Indian lands south of

SUPERIOR BREAKS ITS



THE SUPERIOR OIL COMPANY'S LIMONEIRA NO. 1, IN VENTURA COUNTY, CALIFORNIA, BOTTOMED ON MARCH 13, 1949, AT 18,734 FEET FOR AN OUTSTANDING WORLD'S RECORD.

Again it is our privilege to participate in one of The Superior Oil Company's record breaking accomplishments — a privilege enjoyed ever since the inception of Baker Oil Tools, Inc.

The deep wells drilled by Superior always have been both a stimulant and a challenge to us. A "stimulant" to our efforts to furnish the correct Baker Equipment at the specified time — a "challenge" to be prepared with advanced Baker Oil Tools to handle the 20,000-foot wells soon to come.

Thank you, Superior, for the compliment of relying on Baker when "the chips were down" in the deepest hole ever drilled.

A Salute to **SUPERIOR**

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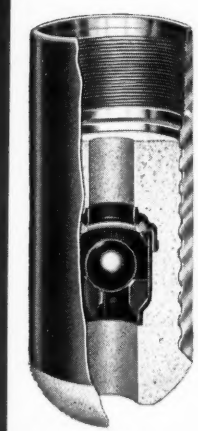
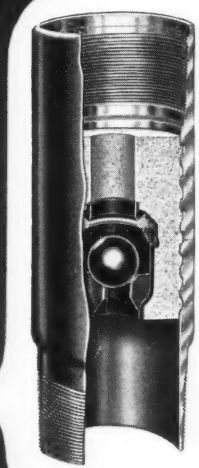
OWN DEPTH RECORD

Floating, Landing and Cementing that 11,204-foot string of 9⅝-inch casing is another record in which BAKER shared

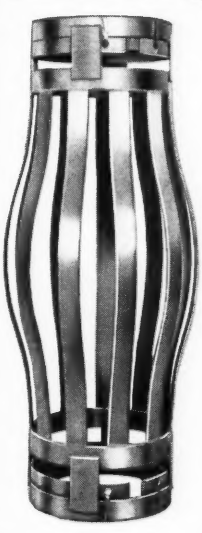


A standard "out of stock" Baker Cement Float Shoe provided ample strength for "floating" the 11,204-foot string of 9⅝-inch casing. Here is positive proof that AMPLE STRENGTH always is yours when you use Baker Cement Guiding, Floating and Cementing Equipment.

A Baker Cement Float Collar, with Extremeline Threads, was positioned above the shoe to provide an additional float valve in this long string of casing.



Setting a 9⅝-inch Baker Magnesium Alloy Cement Retainer at 11,093 feet is another world's record. As usual, this Baker Cement Retainer was set and operated without incident — and the magnesium construction insured maximum ease of drilling out.



Positioned above the shoe, throughout the critical cementing area, were 4 - 9⅝-inch Baker Model "G" Casing Centralizers — the newest and most efficient casing centralizers. When a Superior field executive saw these centralizers he remarked, "This is the first time the oil industry has had centralizers that look like they would do the job."

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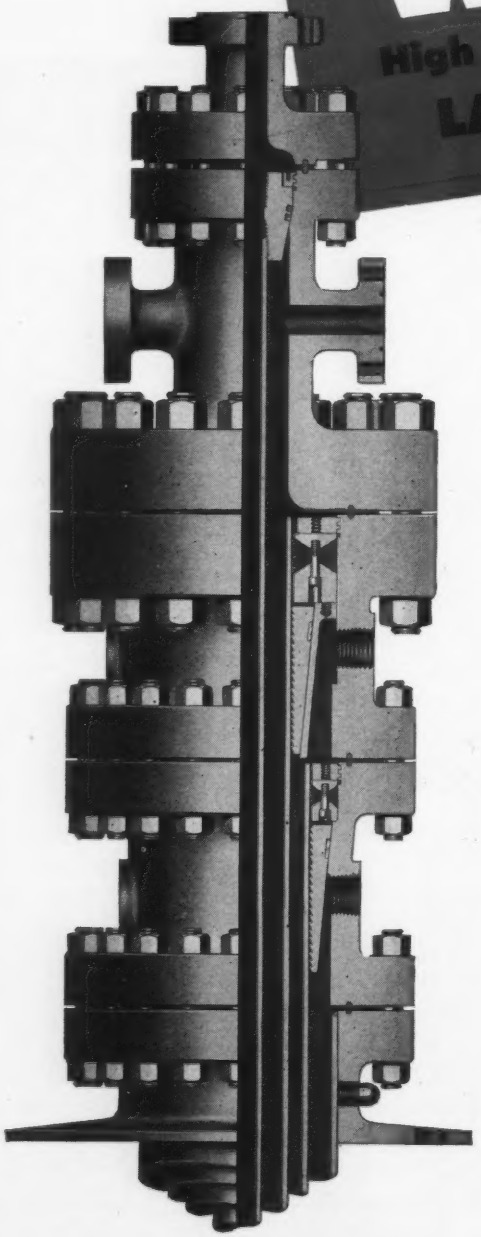

WILSON A.P.I. ASSEMBLY NO. 1152-A

3-string, 10,000 lb. test with Flange Type Landing Base.

*Assemblies also available with split type bases.

EXTRA HEAVY STEEL CASTINGS, rugged over-all design, with flanged connections on all outlets make this WILSON a pressure-proof, risk-proof Landing Assembly.

Its flange type base* provides maximum insurance against high pressure leaks. Any required number of full-opening spools can be stacked to accommodate multiple casing strings. Each string is suspended on its own set of slips and individually packed-off. Packing is simplified because elements are pre-assembled . . . *unitized* for your convenience. A.P.I. construction permits incorporation of all other desirable A.P.I. components without special machining . . . No misaligned bolt holes, no need for special adapters. Standard replacement ring seals available at all supply stores.

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the Barker Creek field in San Juan county, New Mexico, have been offered for sale by the Consolidated Ute Indian agency at Ignacio, Colo. The successful bidder will be committed to drill a 9,500-foot test to the Paradox sand within five years.

Sealed bids will be opened at 2 p.m. on March 30. The lands comprise the south half of section 30, all of 31, and the north half of 32 in township 32N-15W. The Barker field came into prominence in 1925 with a 30,000,000 cubic foot gas well in the Dakota formation, and in 1942 gas was discovered in the Pennsylvanian. Present production in the field is controlled by Delhi Oil Co., and the Southern Union Producing Co.

Eight pool wells were completed successfully in New Mexico during the first half of March, adding an estimated daily production potential of 2,200 barrels to the state's total. One wildcat was listed as a failure when J. E. Soper's No. 1 Santa Fe in McKinley county was abandoned at 986 feet in sand and shale.

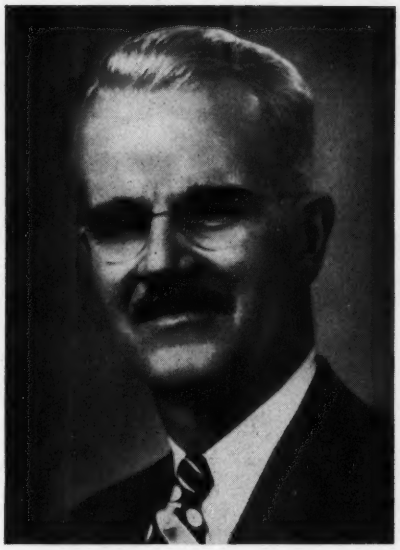
Continental Oil Co.'s Eaves A-19 in Lea county was completed for an initial flow of 792 barrels 30 gravity oil thru 3/4 inch choke at total depth of 3,220 feet, in lime. Continental also completed State A-33 in the Barnes field, Lea county, for initial flow of 144 barrels daily of 43 gravity oil, with the hole bottomed at 3,198 feet.

Gulf Oil Corp. completed J. N. Carson "A" 10 in the Hare field, Lea county, for 480 barrels per day of 48.6 gravity oil from the McKee lime, at total depth of 7,570.

Shell finaled No. 2-A State at Langlie-Mattix in Lea county for 50 barrels per day, 29 gravity, cutting 4% basic sediment and water.

In Chaves county, DeKalb Agricultural Association tested a half million cubic feet per day of gas after perforating and repeated acidizing of a zone in the Devonian, below 6,240 feet. The well was shut in.

Shallow production was found by Wright & Etz at No. 1 Yates, seven miles south of the Dayton pool in Eddy county. Running 8 inch casing to 254 feet, and installing pump, the operator pumped 500 barrels of oil in a 20 day test. The well is now drilling below 700 feet in search of deeper production.



R. D. Townsend was promoted to manager of the Rocky Mountain land department for General Petroleum. He has been with the company 20 years and formerly served in the Los Angeles office.

Magnolia Petroleum Co.'s Botenbaugh No. 1 wildcat five miles northwest of the Crossroads Devonian pool recovered 210 feet of sulphur water with an odor of oil in a test from 4748-99, and in a later four hour test made 300 feet of salty sulphur water. Casing, 9 5/8, was run to 6200, and the operator is drilling lime below 7,000 feet.

Magnolia's Cox-Federal No. 1 venture six miles northeast of the Crossroads discovery is drilling below 11,600 feet in lime, after topping the Pennsylvanian at 9,010.

The company's Yates-Federal No. 1 in 31-9S-36E was completed recently pumping 17 barrels oil and 7 barrels water in a 24 hour period, at a plugged back depth of 4865.

One of New Mexico's deepest wildcat tests, Phillips Petroleum Co.'s No. 1 Shipp three miles west of the Hobbs field in Lea county, is drilling around 11,000 feet in lime and dolomite. A drillstem test in the Devonian, at 10,354 feet, recovered 5,046 feet of sulphur water. An earlier test in the Clearfork, at 5945, recovered 105 feet of oil and gas cut mud and 10 feet of free oil.

Amerada's deep wildcat, Hamilton No. 1, 10 miles east of the Lovington pool in Lea county, is drilling below 11,800 feet after topping the Pennsylvanian at 10,530. A drill stem test from 9971-10,035 recovered 350 feet oil and gas cut mud and 2560 feet of sulphur water in four hours. A two hour test in the Wolfcamp formation recovered 8,965 feet of salt water in two hours.

Utah

Despite the fact that four wildcat tests in the Uintah Basin of eastern Utah have proved to be dry holes at a combined cost of more than a million dollars, Carter Oil Co. is planning other drilling activities in the large region, says R. D. Sloan, division exploration manager.

Carter began exploration of the Uintah Basin in 1943 with surface reconnaissance and later with seismograph and gravity meter operations.

The latest venture, No. 1 Ruth Nelson, was abandoned early this month after every modern technique known to the oil industry had been used to make it produce. The tests, said C. L. Cooksey, division production superintendent at Denver, showed definitely that the well six miles south of Vernal is a failure.

It gave slight promise of becoming Utah's first commercial producer last July when a show of gas and oil was encountered between 7060-7080 feet, but it failed to respond favorably to more than 40 production type tests.

The well was then drilled to a total depth of 7,884 feet, but no production was found. Carter then plugged the hole back to 6,352 and set a whipstock, after which the well was angle drilled for a new penetration of the horizon where the show of oil was encountered. When numerous cores and drill stem tests failed to get a favorable show, Carter threw in the towel.

The company retains its 57,500 acre unit. The Ruth Nelson was drilled on the southeast side of the unit. Like its three predecessors—all dry holes—the well found slight shows of oil and gas in the Wasatch formation.

Carter, Stanolind and others have carried on an extensive geophysical campaign throughout the Uintah Basin since 1944, hoping to find

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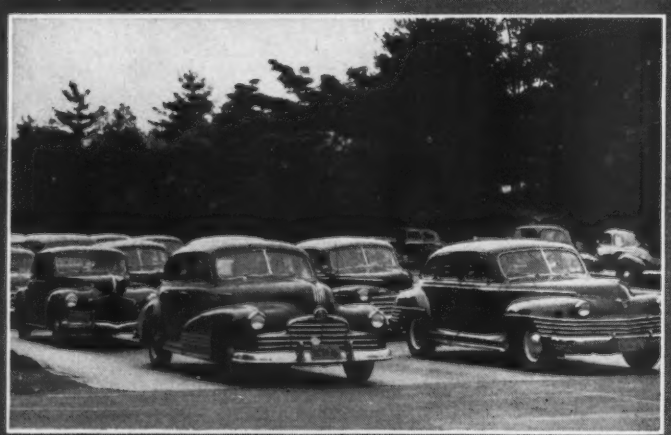

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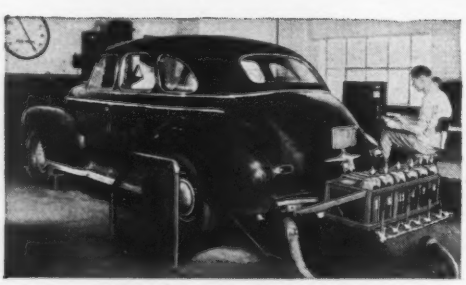

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another Rangely. Geologists theorized that oil might be found in strategic traps of beds against the Uinta uplift running east and west on the north side of the Basin.

Further possibilities are being explored by Carter and Stanolind in the Roosevelt area, west of Vernal, where a new wildcat venture has been drilled to 6,782 feet, total depth. On a drill stem test between 6657-6757 feet the well made 1395 feet of oil and gas cut mud in 75 minutes last week. On a subsequent test the packer failed, but three stands of mud and nine of gas and black-oil cut mud were recovered. Cores in the well showed staining. The venture is projected to Tertiary beds around 9,000 feet.

The California Co. reaped dividends by reworking its Upper Valley wildcat at No. 1 Unit in Garfield county recently. The well had been making about 420 barrels of fluid, only 20 to 25 per cent oil, after several weeks on the pump. A nine foot plastic plug was set between 8791-8795 feet, and Reda pump installed. The oil percentage immediately jumped. On one test the well pumped 806 barrels of fluid in 24 hours, of which 700 was oil. Then, on March 10, the well produced at the rate of 600 barrels of oil per day, with only a trace of water. Gravity is 14.5, with production coming from a Pennsylvanian lime zone below 8777 feet.

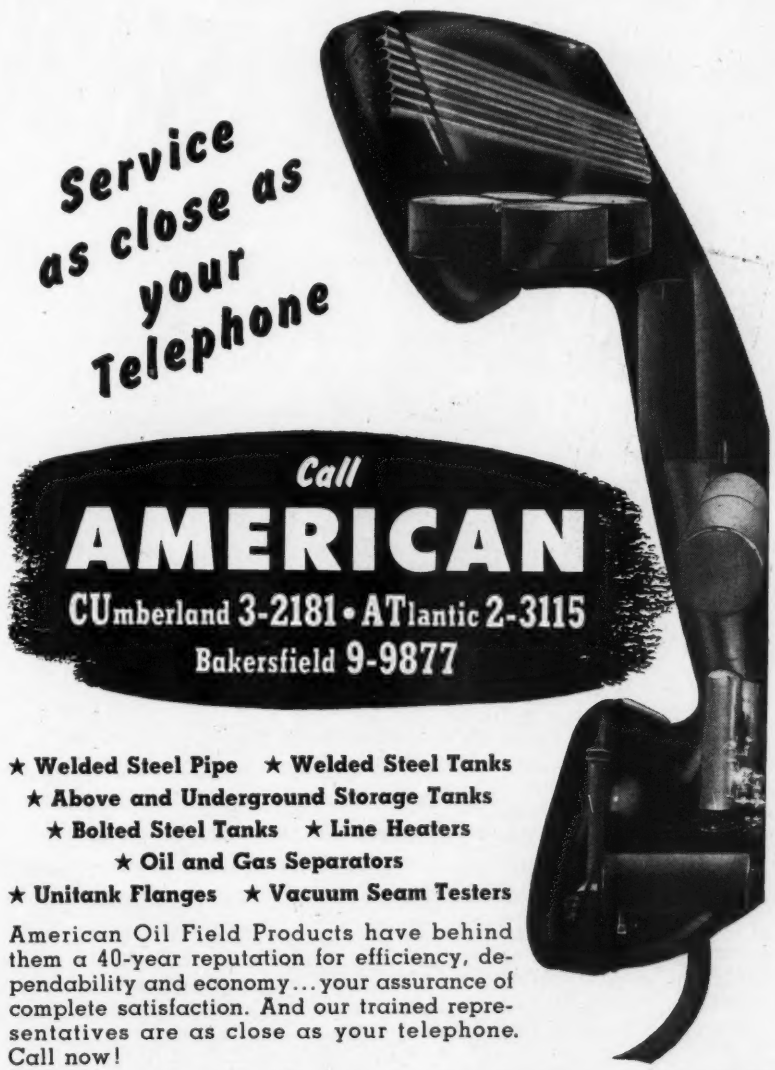
Recovery of 180 feet of oil and gas cut mud in a 45 minute drill stem test was reported by Tide Water Associated Oil Co. at No. 74-11 unit in the Big Flat Unit. The test was made between 3908-63 feet, in what is thought to be the Paradox formation (Pennsylvanian). Pacific Western has a one-quarter interest in the venture, which has an important bearing on the south side of Utah's Salt Basin area.

Natural gas was tested in Tertiary beds at Seaboard Oil Co.'s wildcat in the Bitter Creek area of southern Uintah county, now at total depth of 8,206 feet. The gas recovery was gauged at 1,500,000 to 2,000,000 cubic feet per day. On another test the well made 1630 feet of gas cut mud in 30 minutes. Located on a 32,000 acre block taken by Seaboard in 1946, the well is a strat trap venture.

Rapid development is under way at Utah's original oil field in the Ashley Valley, Uinta county. Crane-Griffith's No. 1 W. E. Rennie, an outpost of one half mile southeast of production, flowed 20 to 30 barrels an hour from the Weber below 4231 feet. Equity Oil Co. topped Weber at 4065 in No. 2 Ashley Valley, and is coring in the sand. Hollandsworth Drilling Co.'s No. 1 Hall was reported flowing 32 barrels an hour from the Weber between 4071-4124 feet. North of Ashley Valley Baird & Robins are drilling below 2500 feet in a venture in the Naples area.

Montana

Possibilities in the Madison lime will be explored by Union Oil of



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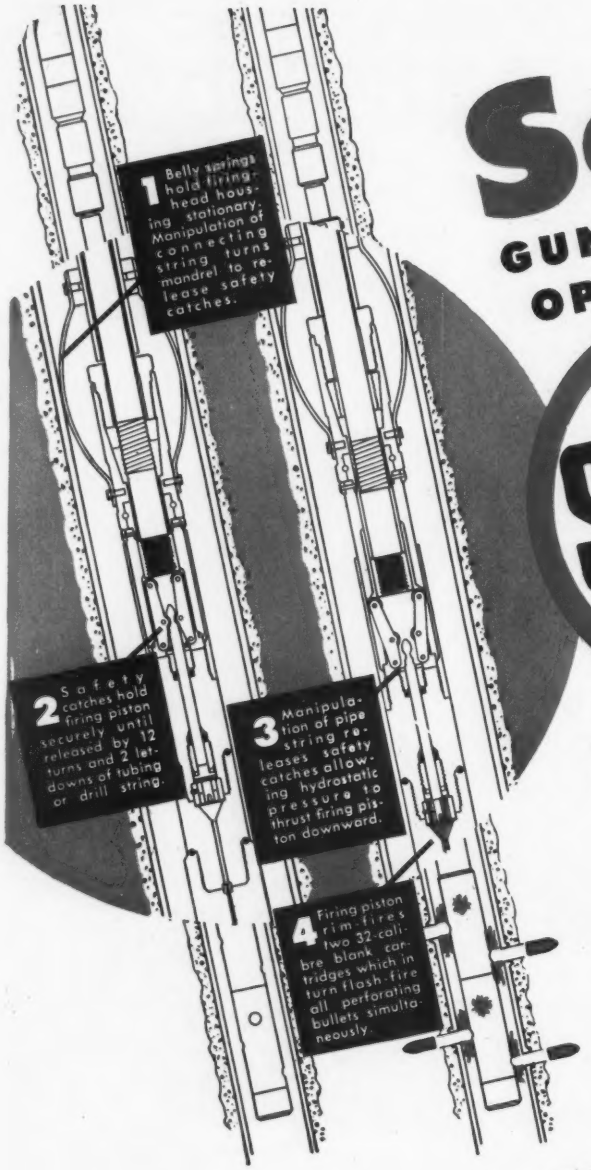
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California and Stanolind at No. 1 Mackay in section 13-6s-17e, Carbon County, Mont. Location for a 5500 foot test has just been announced. Shows of oil and gas were found in the Dakota in a wildcat drilled by Ohio to 3638 feet total depth in 1926.

British-American has given up trying to recover a hammer dropped in the hole at Clark's Fork in Carbon county, and has cemented a protective string in the hole at 9056 feet, total depth. The well is planned as a Madison test, around 10,000 feet. Shows of gas and condensate were recovered in Lakota tests.

Shell scored disappointment at its wildcat at No. 1 Crow Tribal in Ash Creek, Big Horn county. A drill stem test in the Madison lime (?) recovered 1980 feet of brackish water, between 10,202-291. The operator is coring below 10,355 feet. The well has an important bearing on developments along the west side of the Powder River basin extending from northern Wyoming into southern Montana.

Amerada topped the Cambrian at 6477 feet in its deep test at Melstone in Musselshell county, first in the field to go below the Big Snowy group. The company made a discovery in the Big Snowy last year. Failing to find any shows in the Cambrian, the operator is plugging back for another Big Snowy well.

Union Oil of California ventured two miles southwest of present production on the Reagan Nose pool in Glacier county for a Madison test, around 4000 feet. The wildcat is now below 2000 feet. Production in the field has been aided considerably by heavy acidization, and is now estimated at 600 barrels daily from seven wells.

Continental is opening a district office at Billings to handle increased exploration activities in Montana. H. F. (Tax) King is moving from Bakersfield, Calif., to Billings as landman and scout under K. W. Brill, division land manager. A geological staff may be added.

Oil and gas leases on 10 tracts of Montana state lands were scheduled for public auction at Helena on March 29. Included were a section east of Cat Creek East Dome in Garfield county, a half section in northeastern Fergus county, 2200 acres south and southeast of Bowes field in Blaine county, and a half section northeast of the Kevin-Sunburst pool in Toole county.

Colorado

Joe Dyer of the Dyer Drilling Co. (formerly Dyer and Rice), is completing a new gas well in the Loveland area (30-5n-68w) in Larimer County, Colo. The wildcat tested four million cubic feet of gas in the Hygiene sand below 1300 feet, but failed to find commercial production in deeper sands down to 5436 feet, total depth. It was plugged back.

Last week Dyer dissolved his partnership with W. C. Rice of Casper—a drilling team which developed 500 barrels of oil daily in

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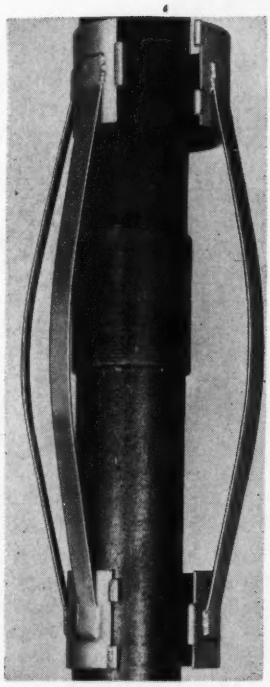

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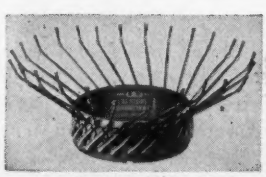

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an eastward extension of the Big Muddy field in central Wyoming during the past two years. The firm's interests in Big Muddy was sold to Southern Production, Inc., of Shreveport, La., for $1,050,000.

Rice's interest was purchased by Sam T. Dyer of Houston, Tex., brother of J. G. Dyer. Offices are maintained in both Denver and Casper.

Hopes for a new field at Bob Creek in Crowley County were dashed when J. B. Stoddard and Colorado Fuel and Iron abandoned their wildcat at 7524 feet, total depth. No shows were reported. The well was located in 11-20s-58w. Nearby, in section 36-18s-56w, Gulf is drilling below 7100 feet. No information has been released on this venture.

The Colorado-Wyoming Gas Co. of Denver was given permission to build 41 miles of additional natural gas pipeline for service to the Greeley Gas Co. in LaSalle, Ault and Eaton, Colo., and to the Public Service Co. of Colorado for resale in Windsor. At the same time the state power commission authorized the firm to abandon 17 miles of line and two compressor stations. The company plans improvements costing an estimated $690,000, which will expand its capacity to about 50 million cubic feet of gas daily.

Shell Oil Co. has halted geophysical work in the Denver Basin. The General Geophysical Corp. crew formerly at Aurora, east of Denver, moved to a new location in Wyoming with another firm.

Valley Utilities Co. at Alamosa plans to install propane gas lines if voters approve a 20 year franchise. Joe Newman of Denver, president of the firm, said a $150,000 plant will be built this summer.

Western Natural Gas Co. is moving its district office from Durango to Farmington, N. M. Durango, alarmed at a threatened exodus of oil firms, has offered to make office space available. The two towns are rivals for the title of oil capital of the San Juan Basin of southwestern Colorado and northern New Mexico.

The Federal Power Commission has approved a $100,000,000 project for a pipeline from West Texas and New Mexico fields to California capable of moving 250 million cubic feet of natural gas daily.

The line would be built by the El Paso Natural Gas Co. and Pacific Gas and Electric.

Another application by San Juan Pipeline Co. to move gas from the San Juan Basin to the west coast is pending before the Federal Power Commission. Approval is considered virtually certain.

Reports have been current for some time, also, that a pipeline may be built some time in the future from the Church Buttes gas field in southwestern Wyoming to California points. The field is now serving Salt Lake City and Ogden, Utah.

R. B. Curran, district manager for the W. H. Barber Co. at Casper, announced he is leaving soon for Calgary, Canada, to take charge of Imperial Oil Co.'s western division in the prairie provinces. Curran formerly was vice president in charge of production for the Carter Oil Co., with headquarters in Tulsa. Both Carter and Imperial are Standard of New Jersey affiliates. Well known in Rocky Mountain oil circles, Curran is vice president of the Rocky Mountain Oil and Gas Association. In Canada he will have a topflight position directing Imperial's fast growing production in Leduc, Redwater and other fields.

Not as rich as the Osages or the Seminoles, the Arapahoe and Shoshone Indians of Wyoming nevertheless are receiving considerable income from oil royalties. Recently the tribes on the Wind River reservation near Riverton received over $800,000, representing the semi annual payment from tribal leases

High bidder for 120 acres of oil lease land south of the Big Muddy field in Converse county, Wyo., was E. M. Carlson of Casper. He paid $40.15 an acre at a bureau of land management sale in Washington recently.

First shipment of oilwell pumps by air in the Rockies was claimed last week by E. C. Dilgarde, veteran oilfield service man. Two pumps, weighing about 400 pounds each, were flown by Pilot Roy Lamoreaux from Casper to Newcastle, in 40 minutes. Installed just six hours after the order was telephoned, the pumps saved three days production at two wells operated by Mush Creek Production Co. The pumps were ordered by L. M. York, who is credited with discovery of production in the Mush Creek field.

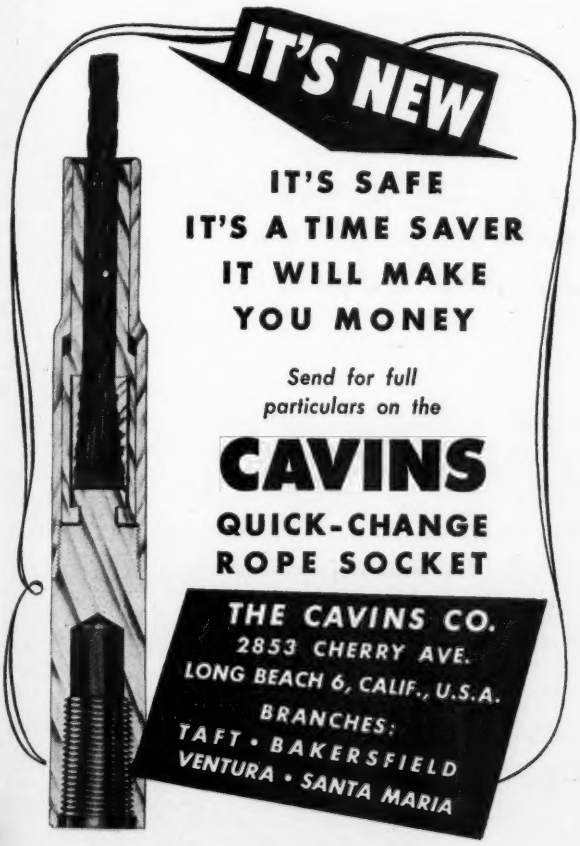
More than 150 geologists, geophysicists and their guests attended a dinner meeting of the Wyoming Geological association in Casper recently. The meeting featured a "chalk talk" by Dave Love of the U. S. Geological Survey, Laramie, on the subject: "Cretaceous Stratigraphy of Western Wyoming." Pointing out the anomalies of correlation, the speaker jested that his talk might better have been entitled "Cretaceous Confusion." It proved extremely interesting to the geologists.

J. C. Johnston of Continental Oil Co. is the new president of the Petroleum Club of Denver. Other officers elected at the annual meeting March 7 are John R. Moran, Denver oil attorney, first vice president; G. F. McMillan, Gulf Oil Corp., second vice president, and O. S. Wood, Colorado Petroleum Industries Committee, secretary-treasurer. M. H. Robineau of the Frontier Refining Co., Denver, is retiring president. New directors are H. A. Stewart, oil consultant; T. T. Freeman, The Texas Co., C. P. Collins, Eastman Oil Well Surveying Co.; H. T. Rapp, B. F. Bennett Oil Co., and Mr. Wood.

First aerial core service for the Rockies has been inaugurated by Chemical and Geological Laboratories of Casper. J. C. Crawford, president, said the new service meets the need for covering distance rapidly in the region.

Drafting a new gas conservation law is the task of a committee appointed by the New Mexico Oil & Gas association. Members are Jack M. Campbell, Don McCormick, Hiram M. Dow, Neal Watson, J. O. Seth and Ross Malone. They will assist the oil and gas committee of the New Mexico House of Representatives.

Zack Brinkerhoff of Brinkerhoff Drilling Co., Casper, recently made a flying trip in the company's Beachcraft Bonanza to Calgary, Alberta, to look over prospects for drilling business. Commented Zack: "It was like old home week in the hotel at Calgary; the lobby was filled with oilmen and drillers from the Rocky Mountain states." Also making the trip was Bert Sager, production superintendent for the firm. Some of the lease spreads, they reported, were "out of this world." Brinkerhoff is contemplat-



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Paul J. Phillips, instructor at Oklahoma A. & M. College and formerly with Sinclair and Cities Service Oil Co.'s, was the instructor at the second management institute for Rocky Mountain oil executives in Casper March 17-18. His subject: Personnel Problems in the Drilling Industry.

The conference is one of six being held in Casper this spring. The first was held recently by M. L. Powers of the department of engineering at Oklahoma A. & M., on the subject: Functions of Management.

Signed up for the series are A. F. Barrett, General Petroleum; Z. K. Brinkerhoff, Jr.; J. E. Fletcher, drilling contractor; C. J. Grant of Fred M. Manning, Inc.; T. H. Harder, Stanolind; C. B. Hess, Ohio Oil Co. at Lovell; J. A. Jackman, Sinclair-Wyoming at Lander; Merle E. Morton, independent operator; Orville Parker, drilling contractor; E. J. Reaser, Continental; Charles C. Roripaugh, King Drilling Co., Lander; L. B. Stephenson, Noble Drilling; M. E. Tate, Noble; H. A. True, Jr., Reserve Drilling; R. A. Wright, Sinclair-Wyoming; S. W. Barrett, Frank Barrett of Ohio Oil at Rawlins; Fred C. Beleau, Stanolind; L. A. Bell, Sinclair-Wyoming; G. W. Berry, Sun Oil Co.; M. H. Brinkerhoff, D. S. Brown, Reserve; Gerald Burgess, Ohio at Powell; G. B. Caperton, Morton Oil Co.; Dean Fox, General Petroleum; D. B. Harrell, Casper; R. M. Kobdish, Sinclair-Wyoming; D. C. Morton, Casper; R. E. Peu, Texas Co.; Bert Sager, Brinkerhoff Drilling; C. W. Sitton, Pioneer Drilling; W. A. Smith, Noble Drilling, and Joan Thomas, Orville H. Parker Drilling Co.

Personal mention: S. J. Johnson, former district geologist for Stanolind at Jackson, Miss., has been transferred to Casper as division geologist for the company. J. T. (Jack) Rouse, formerly land man with Stanolind, has opened an office as independent lease man in Casper. Floyd E. (Hero) Palmer has been appointed field and sales coordinator for the Rocky mountain region for Mud Control laboratories, with offices in Denver. Palmer spent 16 years with the Baroid Sales Division. W. H. (Bill) Curry, has resigned as district geologist for Atlantic Refining Co., and will represent a group of independent Texas operators in the Rocky mountains. George H. Norton, research geologist with Atlantic, is acting as district geologist. Fred Goodstein of the Trigood Oil Co., Casper, was recently elected a director of the Montana-Dakota Utilities Co. Goodstein is president of the Northern Pipeline Co., which supplies natural gas to the Montana-Dakota Utilities Co. for Sheridan and Buffalo. Harry J. McIlnay, formerly a head roustabout at Stanolind's Salt Creek gasoline plant, was made maintenance foreman at the company's Slaughter gasoline plant, Levelland, Tex. James B. Howell, farm boss, was transferred by Stanolind from the Slaughter area, Brownfield, Tex., to the Hogback area, Farmington, N. M.

British American Oil Co., has announced four wildcat tests for the Rocky mountain region this year. These include a 7,000-8,000 test to the Dakota-Lakota formations at Green Mountain in twp 28N-94W, Fremont county, Wyo., resumption of drilling at Whiskey Peak, Fremont county, which will be taken down to the Frontier at around 12,000 ft., a 6,000-ft. Sundance test for Sand Creek in twp. 21N-78W, Carbon county, Wyo., and a 5,000-ft. Tertiary test at Dry Mountain, twp. 9N-99W, Moffatt county, Colorado. The latter test is a 50-50 deal with H. Leslie Parker of Denver, pioneer independent operator, with B. A. operating the unit.

In addition, the company plans to rework Long's Creek, in Fremont county, Wyo., a once promising wildcat beset with water troubles last year, and plans further development drilling in the Steamboat Butte field, now Wyoming's third largest producing field. British-American is sole operator at Steamboat Butte, in Fremont county.

J. G. Dyer is now drilling below 4,500 at the No. 1 Trindle venture near Loveland, and nearing the Frontier formation. In the Hygiene sand the well tested gas at the rate of three to four million cubic feet per day. Five miles to the south, the Berthoud field produces gas from the Hygiene sand and oil from the Muddy formation.

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With Drilling Contractors

The ninth annual meeting of the AAODC will be held in Dallas September 19-21, with headquarters at the Baker Hotel. Full details of the convention will be announced at some later date.

The first oil well completed in the United States was drilled by a contractor. Moreover, since 1859 most of the oil and gas wells added in various areas throughout the country were the work of drilling contractors. Brad Mills, executive vice president of the American Association of Oilwell Drilling Contractors, commented that with such a background it is obvious that the contracting end of the petroleum industry has grown along with the other branches. But, he added, it is constantly challenged by demands that a better job be done. "The drilling contractor who values the need of self-improvement in every branch of his work, and does something about it, is the one who can best withstand the rather violent ups and downs so characteristic of the industry," the trade executive stated. A good, sound program for any contractor involves full recognition of managerial responsibilities, employee welfare, safety in all work, correct accounting methods, and a genuine desire to carry out every contract with credit."

Loffland Bros. is guiding the redrilling of the Amerada Petroleum McCormick No. 4 deep test at Rio Vista. The well is destined to take a look at the Cretaceous for oil. The contractor currently has tools active wherever oil and gas may be found.

Drilling & Exploration Company is responsible for vast improvements in derrick skidding during the past year. To Jim Cullen, associated with Drilexco in West Texas and New Mexico, the old method of placing matting ahead in bringing the derrick along on rollers is as obsolete as a one-horse plow. This method was slow and usually required roads to be built to assure a moderately smooth pathway. Several ways to improve and speed up skidding have been tried, including wheels with large airplane tires. But, says Cullen, tires were not the answer because under the heavy load they blew out, and although the company has no knowledge of a derrick being lost, the method was far too precarious. Finally, the driller explained, the use of rotating tracks, called Athey Wagons, were tried and proved successful. With these tracks the need for a skid road on flat terrain has been eliminated. They conform to ordinary obstructions in the same way as do the tracks on an army tank or farm tractor, he pointed out.

The California chapter of the AAODC held its regular monthly meeting on St. Patrick's Day, March 17, at the Victor Hugo restaurant in Long Beach. It was well attended.

Clyde Hall has given the final touch to Alexis No. 2 at West Edison for J. Paul Getty. Current Hall contracts include Getty's Corey No. 74 at Mountain View, Independent Exploration's Porter-Day No. 3 in the same field, Pacific Western's Porter Property No. 2 at Edison, and Rothschild Oil's Perkins No. 1 at Newhall.

San Joaquin Drilling Company has completed Pacific Western's Yager No. B-1 in Sec. 30-15s-17e in the San Joaquin area, Fresno County. In addition to more than a half dozen jobs going in California, the drilling organization is represented by several strings in the Rocky Mountain area.

Richfield Oil's Russell A. No. 71-6 on the Russell Ranch, which was drilled by Bell & Burden, flowed initially at the rate of 1470 barrels daily on a three-hour gauge.

Miller & York is the contract driller of W. R. Gerard's Gerard-Cairns No. 1 at Dyer Creek and Morris-Rothschild Operations' Brandt No. 1 at Edison. They are among the most interesting wells in the state.

Santa Fe Drilling Company has finished Magenheimer No. 2-1 for Standard of California at Gato Ridge. Drilled to 4240 ft., the well at this writing appears to have found production across a fault. Santa Fe Drilling also is active at Los Alamos, Cat Canyon, Cuyama Valley, Brea Canyon, Kettleman Hills Middle Dome, Ventura Avenue, Rio Vista, East Coyote, La Habra, Carrizo Plains, Dominguez and several other areas.

Fowler Drilling Company is about to spud Boyle Royalties Company's Taylor No. 1 well at First and Lorena streets in the Boyle Heights area of metropolitan Los Angeles. It will be a venture of unusual interest and will have the attention of hundreds of community residents.

Contractor is LeBow & McNee on the Bakersfield Oil Company Red Ribbon Ranch No. 1 at Fruitvale. The contractor in its wor right has been identified recently with important development in San Joaquin Valley.

Field Development

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Coastal and Northern District

Arroyo Grande Well May Test

H. F. Gibson is reported considering the running of pipe and tests of tar showing credited to his Tar Springs Ranch No. 1 on Sec. 14-32s-14e in the Arroyo Grande area, San Luis Obispo County. Present depth is 810 ft.

Rio Vista Try Redrills

Amerada Petroleum's McCormick No. 4 deep test on Sec. 36-4n-2e in the Rio Vista area of Solano County is redrilling at 10,250 ft. The project had previously been carried to a depth of 10,934 ft. When a long fishing job at that point failed to clean out the hole the operator decided to make new hole and initiate a fresh start from approximately 5800 ft. Present plans of the project apparently call for a revealing look at the oil production chances from the deep Cretaceous. Geologists have pointed out that in parts of Northern and Central California beds of this geologic age are extremely thick. If they showed a disposition to produce oil in commercial amounts, wide areas would be open to new drilling. Amerada may go to 15,000 or 16,000 ft. in its hunt for new oil. North and a little west of Vacaville, the company is drilling below 3200 ft. with its West No. 21-31 test well on Sec. 31-7n-1w. The play involves 1750 acres in which interest is shared with Southern California Petroleum Corporation.

Ventura Avenue Well Recompleted

British American Oil Producing has recompleted its Hartman-Barnard Unit No. 1 well in the Ventura Avenue field for an output of 230 barrels of net oil daily. The D-C zone is open to production at several intervals from 10,135 to 10,995 ft. The well started to flow before tubing was run. The company first completed the project around the first of the year. It is the 10th well on company property, where interest is shared with Bolsa Chica Oil. The latter holds a 40 per cent interest there.

North Elwood Wildcat Digs

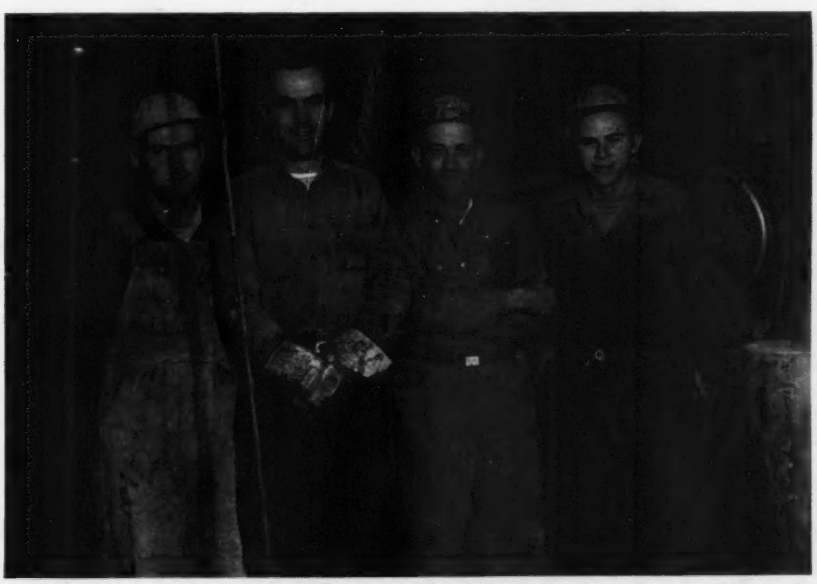
On ground north of Elwood in Santa Barbara County, Fire-Rice Drilling Company is drilling Harbel No. 1 wildcat on Sec. 18-4n-29w. Depth last reported was near 1000 ft. Fay Wright is company engineer.

Carpinteria Wildcat Quits

Near the town of Carpinteria, named after an early day carpenter shop there, Thornbury Drilling Company has abandoned its Canfield No. 1 explorer on Sec. 34-4n-25w, Santa Barbara County. The hole, bottomed at 2160 feet, cored from 2152-2160 ft. Recovery was described as one ft. of sandy, reddish-brown clay.

Humboldt County Well Completed

Paul F. Snyder has completed his Etten No. 1 on Sec. 36-2s-1w in the Mattole River Valley area of Humboldt County. Total depth is 1933 ft., with casing set at 1793 ft. A representative production gauge is yet to be made. Texas Company's Holmes-Eureka No. 4 in the Tomp-



In the Castaic Field at British American and Humble Oil Co.'s well, Wayside Honor Farm No. 1, Rocky Mountain Drilling Co. contractors. Left to right: Fred Christie, derrick; Howard Merrill, driller; Fred Western, cathead; J. V. Schavick, lead tong.

kins area has been shut in, after flowing at the rate of 2,785,000 cubic ft. of gas daily on a 5-hour gauge. Total depth is 4429 ft. Gas sand was topped at 3881 ft. In the Fielbrook area on Sec. 26-7n-1e, G. L. Speirs is drilling at 1645 ft. with his No. 1 well.

Tracy Test Commences

Approximately five miles northwest of the Tracy gas field in San Joaquin County, Ohio Oil has started the drill in a new gas try on Sec. 26-1n-4e. Hole is now being logged in the shallower formations.

Gato Ridge Well Finaled

Standard of California's Magenheimer No. 2-1, a new pool test on Sec. 5-8n-32w in the Gato Ridge area, has been completed at 4240 ft. for an unestimated yield. Combination string was run to 4239 ft. Location is across the fault.

Los Alamos Try Drills

Pacific Western's Archambeault No. 1 wildcat in Sec. 8-7n-32w at Los Alamos in Santa Barbara County is drilling ahead at 2365 ft. The play takes in 1500 acres and shares interest with Southern California Petroleum Corporation.

Ojai Test Drills On

In the Lion Mountain area near Ojai in Ventura County, Humble Oil & Refining is drilling at 1345 ft. with Thoe Hammond No. 1 on Sec. 18-4n-22w. The hole caved around 500 ft. ,but was cleaned out.

Cat Canyon Test Starts

Seeking a north extension of the Cat Canyon field, Union Oil is drilling ahead below 800 ft. with its Bonetti No. 1 on Sec. 19-9n-33w. Douglas Oil of California is making hole ahead at 5925 ft. with Los Flores No. 14 on Sec. 22-9n-33w. No. 19 was recently completed at 6308 ft.

Santa Maria Well Begins

Rice Ranch Oil Company has spudded and is drilling ahead at inconclusive depth in its Penn No. 9 on Sec. 19-9n-33w in the Santa Maria field. Union Oil is starting Squires No. 32 on Sec. 23-9n-34w.

Guadalupe Try Pends

Signs point to a possibility of a deep test this summer in the Guadalupe field, sponsored by Continental Oil Company. Official comment on such a venture is lacking.

Monterey County Development Grows

Standard of California is starting a very interesting wildcat well in Monterey County. It is Walti No. 1 on Sec. 34-21s-12e, about 10 miles west of Coalinga toward San Ardo. The company is understood to have substantial acreage in the area and if successful developing new oil would open miles of new territory

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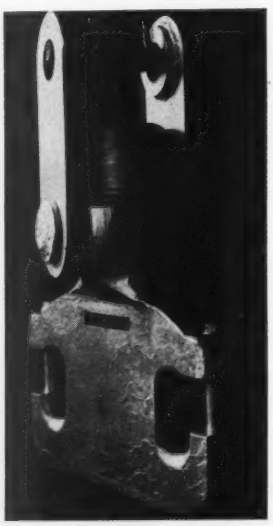

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to further prospecting. Signal Oil & Gas is about to wind up an extensive leasing campaign in the area generally starting northwest of the Cuyama Valley in the Carrizo Plains and stretching out through the San Ardo area. The lease block evidently runs into four figures. Leasing also is brisk in the Elkhorn, Springfield, San Andreas, Corralitos and Valencia areas. Superior Oil's new Orradre No. 1 on Sec. 6-23s-11e is currently pumping 100 barrels a day from 2569 ft. It is a northeast extension of the Campbell pool at San Ardo. The Jergins-North American combination is continuing its San Ardo drill program with more than ordinary success. Half a dozen wells are in the completion stages.

Edgar Try Digs

On the Edgar Anticline, Texas Company continues drilling at 3767 ft. in its NCT-1 No. 1 on Sec. 12-32s-19e. Nothing of interest has been reported to this writing.

Bardsdale Well Works

Drilling is proceeding below 1700 ft. in Kirk Oil Company's Richardson Comm. No. 1 at Bardsdale in Sec. 14-3n-20w. Union Oil is rigging up Dryden No. 20 on Sec. 12-3n-20w.

Edna Test Drills On

C. W. Colegrove at last reports was digging below 5450 feet in Pricco No. 56-5 in the Edna area, after losing and recovering fish. Drill site is in Sec. 5-32s-13e.

Goleta Well Goes On Pump

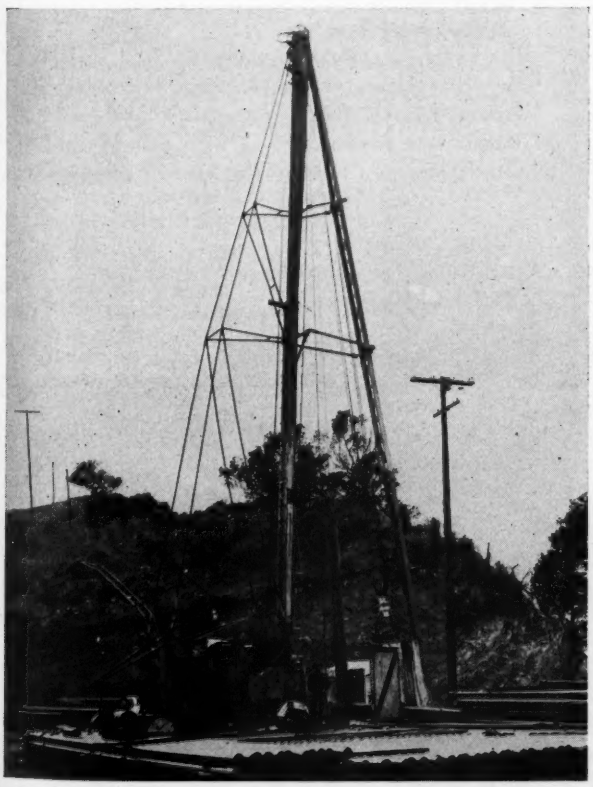
Drilled to a total depth of 1428 ft. in the Eocene, Dan Fisher, operator, has finaled on the pump Hollister-Fisher No. 1 on Sec. 3-4n-29w. Located on the Hollister Ranch in Winchester Canyon, representative yield has not yet been established. The Eocene was topped at 1321 ft.

Bolinas Test Growing Deep

In the Bolinas sector of Marin County, L. M. Lockhart is drilling inquisitively at 7750 ft. in R. C. A. No. 1 wildcat. The venture is testing practically virgin territory.

Montalvo Deep Venture Quits

The deepest man-made hole in world history on the largest lemon ranch in the world has finally come to a halt at a depth of 18,734 ft. in shale. Drilled by Superior Oil Company on Sec. 9-2n-22w at North Montalvo near Oxnard in Ventura County, the well encountered little of commercial interest in its journey three and one-half miles in the earth's crust. Superior also held the former world depth record with its Weller No. 1 in Caddo County, Okla., which went to 17,823 ft. before stopping. Standard of California more recently drilled its Maxwell No. 1 at Montalvo to 17,696 ft. The well, Limoneira No. 1, was spudded in on September 6, 1948. Located on a delineated syncline, the well encountered a fresh water zone just short of 2000 ft.



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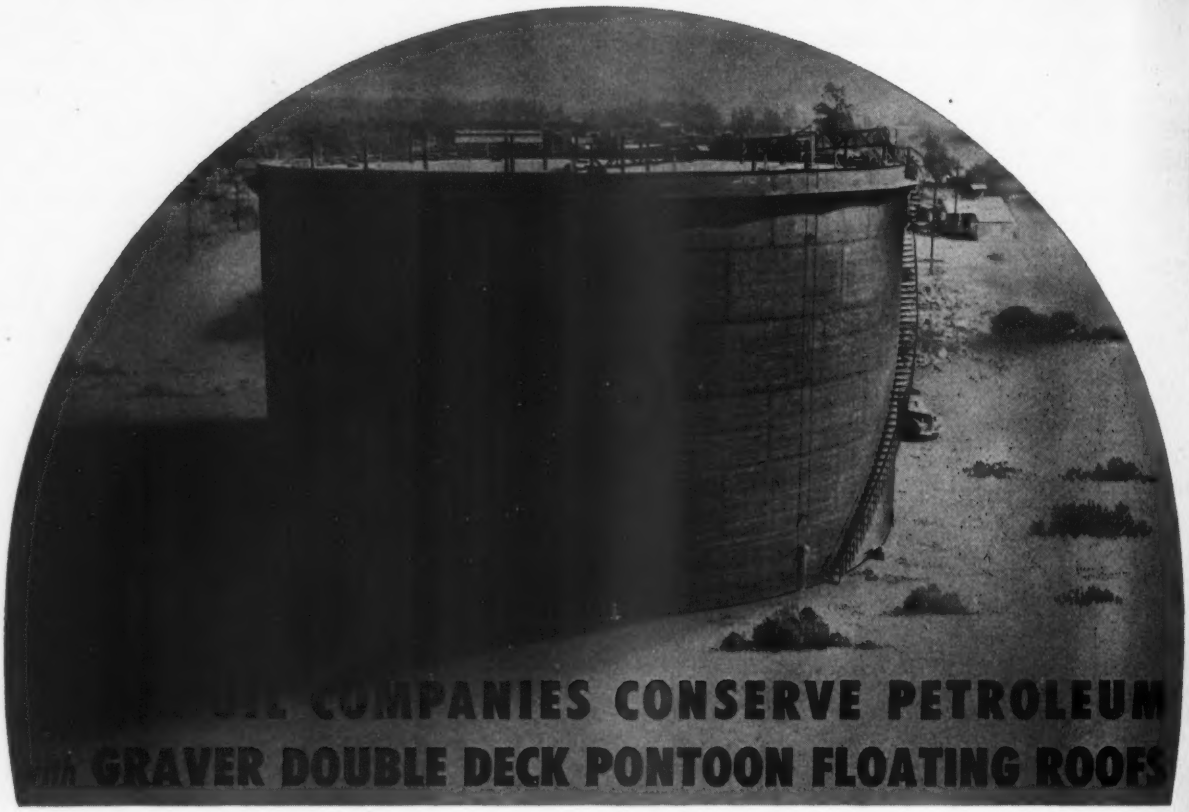

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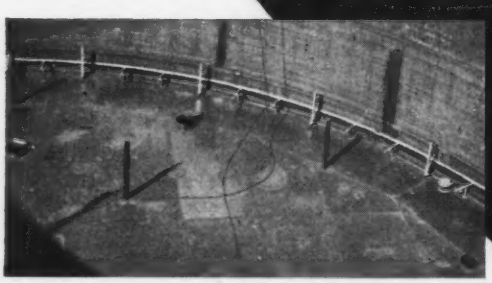

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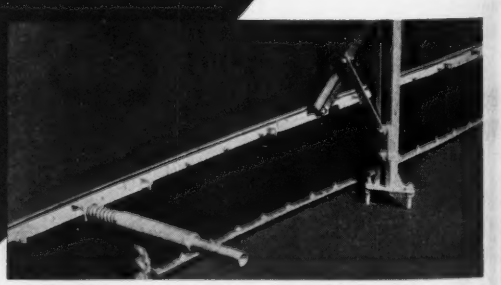

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San Joaquin Valley

Blackwells Corner Wildcat Drilling

Northeast of Blackwells Corner in Kern County, British American Oil Producing is drilling ahead below 600 ft. with Beer B No. 1 on Sec. 8-26s-19e. Location falls a half mile northeast of an unsuccessful test drilled some years ago by Texas Company to 1200 ft.

Wasco Well Redrilling

Standard of California is redrilling Mushrush No. 5 on Sec. 7-27s-24e at Wasco below 13,400 ft. The well poured oil from 13,130 ft. during the flush days of the Wasco field. Present objective is the Eocene sands anticipated around 14,900 ft.

Cantua Creek Wildcat Starts

In the Cantua Creek area of Fresno County, Humble Oil & Refining has started work on its S. P. No. 1 wildcat on Sec. 25-18s-16e, Fresno County.

Belridge Outpost Finished On Pump

Richfield Oil by completing its Colm No. 1 outpost on Sec. 24-28s-20e has extended the shallow South Belridge field to the southwest. The well pumped initially from 1100 feet at the rate of 21 barrels daily on a 12-hour gauge. Oil sand was topped at 836 ft. and Diatomite at 943 ft.

Panorama Hills Wildcat Staked

Western Gulf has staked location for a test well on the Vishnue property in the Panorama Hills of San Luis Obispo County. The property is reported owned by George Cameron of the San Francisco Chronicle. Drill site is in Sec. 3-23s-21e. Milton L. Kane, manager of Morris Estates in San Francisco subleased 2500 acres to Western Gulf.

Fruitvale Try Listed

On ground between Fruitvale and Kern River, William M. Kelso is beginning work on Robinson No. 1-1 test in Sec. 18-29-28.

San Benito Test Drills

On Sec. 22-16s-8e in the San Benito area of San Benito County, Regent Oil Company is making hole at 2225 ft. in Ojeda No. 1 wildcat. The company's Baumgartner No. 1 on Sec. 26-17s-9e is temporarily inactive at 2891 ft.

Gosford Adding New Drilling Jobs

Union Oil has plans drawn for two new drilling jobs at Gosford in Kern County, which will offset Hancock Oil's new producer there. They are known as Frazier Trust No. 16-24 and No. 25-25 on Sec. 24-30s-26e. Hancock's No. 74-23 on Sec. 23-30s-26e is drilling at 7835 ft. Superior's Edgar No. 24-31 on Sec. 34-30s-26e is digging at 7601 ft.

McKittrick Test Begins

Fairview Exploration Company, a Bakersfield concern headed by E. V. Landry, is commencing its McNeal No. 1 on Sec. 18-30s-22e, north of the McKittrick field. Texas Company's Westpet No. 4 on Sec. 29-30s-22e is a producer at 4945 ft. It is bringing in 154 barrels a day. On Sec. 16-30s-22e, Standard is drilling below 1000 ft. with Spreckles No. 45.

Comanche Point Venture Listed

Selegna Petroleum Corporation is ready to spud its Carla No. 1 on Sec. 25-12n-19w in the Comanche Point area, Kern County. It is 2000 ft. west of the G. B. Finch Tejon No. A-1, which was abandoned six weeks ago. This try reported oil shows on the ditch.

Antelope Hills Wildcat Testing

Independent Exploration is testing sand stringers from 3156 ft. to cementing point of 7-in. pipe at 3656 ft. in its Bolton No. 83 on Sec. 27-27s-19e in the Antelope Hills area. Total depth is 4313 ft. Unofficially, the project is said to look more like a gas well than an oil producer.

Poso Creek Test Drills

On Section 36-27s-27e in the Poso Creek area, Terminal Drilling Com-

Union Pacific RR Co. well No. 303 at Wilmington, being serviced by E. B. Hall Co. employees. Left to right: J. D. Cahill, derrick; J. F. Gilliam, operator; L. P. Rink, well puller; J. B. Artz, well puller.

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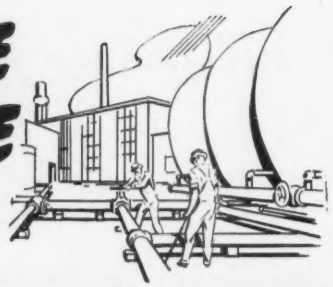

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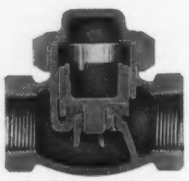


Fig. 402 Lift Check

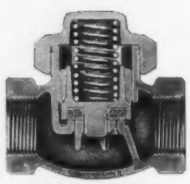
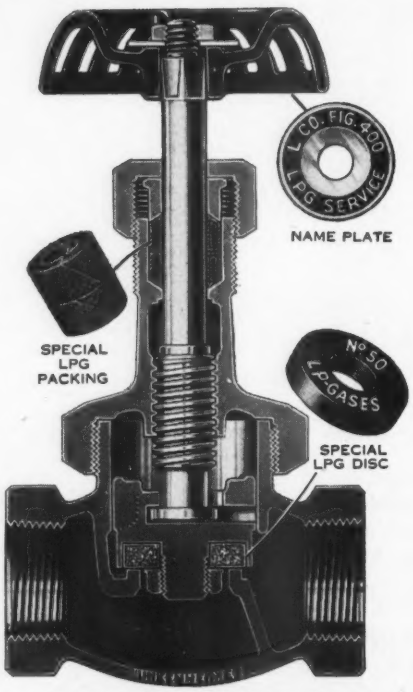


Fig. 403 Lift Check with Spring



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pany is making progress in the shallower stratum with its No. 36-1 well. It is located a short distance from where Standard in 1944 drilled unsuccessfully for new oil through the medium of Davidson No. 1. The Davidson project came to a halt at 3200 ft.

Maricopa Area Work Planned

Blue Ridge Oil Company has under consideration the resumption of work on its San Emidio lease in Sec. 14-10s-27e, southeast of Maricopa. The lease contains two wells. They are Blue Ridge No. 1 and Chapman No. 1, bottomed at 496 and 2012 ft., respectively. Operations probably will be resumed in both wells.

Paloma Well Drills Deeper

Ohio Oil's deep test in the Paloma field is drilling at 12,000 ft. Digging recently is reported hard shale and sandstone. Known as KCL-A No. 61-31, the well is on Sec. 31-31s-26e.

Cuyama Still Interest Center

With the installation of heavier equipment, Eagle Oil & Refining Company plans to carry its Cuyama No 1 well on down from present depth of 5026 ft. Located on the west edge of Cuyama Valley on Sec. 26-11n-29w, the well showed oil in the bottom portion of the hole. General Petroleum is the holder of 2600 acres adjacent to the Eagle test. The company's block includes the 1300-acre Ken Wallace property. South of Cuyama postoffice, Richfield is coring at 11,900 ft. with its Perkins No. 1 deep test on Sec. 27-10n-26w. Approximately six miles southeast of the Perkins hole, Humble Oil & Refining is drilling Wegis No. 1 on Sec. 28-9n-25w below 2100 ft. Richfield is drilling Wegis-Reyes No. 1 on Sec. 9-9n-25w below 4450 ft. The company is seeking to widen the Russell Ranch sector to the north with its Joice No. 1 staked on Sec. 24-11n-28w. Location is 1375 ft. northeast of Hancock Oil's No. 22-25, completed several weeks ago for 550 barrels from 3200 ft. The Hancock producer, on

the Wood-Callahan lease, extended the field three-quarters of a mile northwesterly.

Salt Creek Test Quits

Drilling to 2000 ft. with negative results has brought about abandonment of Holly Development's Holly No. 1 test well northwest of the Salt Creek area, Sec. 1-29s-20e. The company's property is viewed by geologists as having excellent deep zone possibilities.

Jacalitos Test Listed

Moving one location north and west from the Sherman No. 74-20 westerly extension well at Jacalitos in Fresno County, Texas Company has staked location for Sherman No. 63-20 on Sec. 20-21s-15e. The field widener came in from 3527 ft., flowing more than 500 barrels daily.

Edison Adds New Drilling

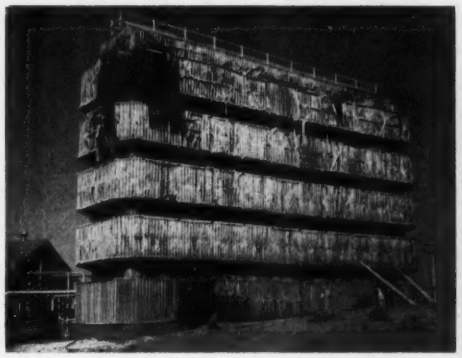
Fred Manning, independent producer and contract driller, is planning an interesting test well south of the Edison field, Sec. 36-30s-29e, Kern County. More than the usual amount of attention is focused on the new drilling job slated for the West Edison area by the First National Finance Corporation. It is called DeMille-First-National-Biggar No. 3 and is on Sec. 17-30s-29e.

Bakersfield Test Failed

East of Bakersfield on the Claude Blodget property, State Exploration has abandoned its No. 1 test at 2169 ft. Drill site is on Sec. 30-29s-29e. The Santa Margarita was topped at 2110 ft.

Dyer Creek Test Finals

In the Dyer Creek area of Kern County, W. R. Gerard is finaling Gerard-Cairns No. 1 on Sec. 11-26s-22e. Total depth is 2305 ft., with casing set at 2285 ft. Company engineers are Ross Cabeen & Associates.



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Greeley Test Drilling Ahead

General Petroleum at last reports was probing deeper with the KCL-Calder No. 38-23 near the Greeley field, Sec. 23-29s-25e. Drilling is below 12,600 ft.

Middle Dome Test Drills

With only about 800 ft. to go to reach the objective Eocene sands, Middle Dome Corporation's No. 52-30V on Sec. 30-23s-19e at Kettleman Hills Middle Dome is drilling below 11,200 ft. Standard's S.F. & F.L. No. 4Z-68 on Sec. 4-24s-19e is drilling at 10,395 ft.

Lost Hills Try Deeper

Near the Lost Hills field, Standard's Van Sicklen No. 45 exploratory hole on Sec. 26-27s-21e is drilling ahead with tools at 12,680 ft.

Williams Try Spuds

Independent Exploration is about to spud Layman One No. 6 in the Williams area, Sec. 18-28s-20e, Kern County. Voight No. 1 on Sec. 6-28s-20e is starting work. No. 1 on Sec. 2-30s-21e at Temblor Hills is on the calendar for immediate drilling.

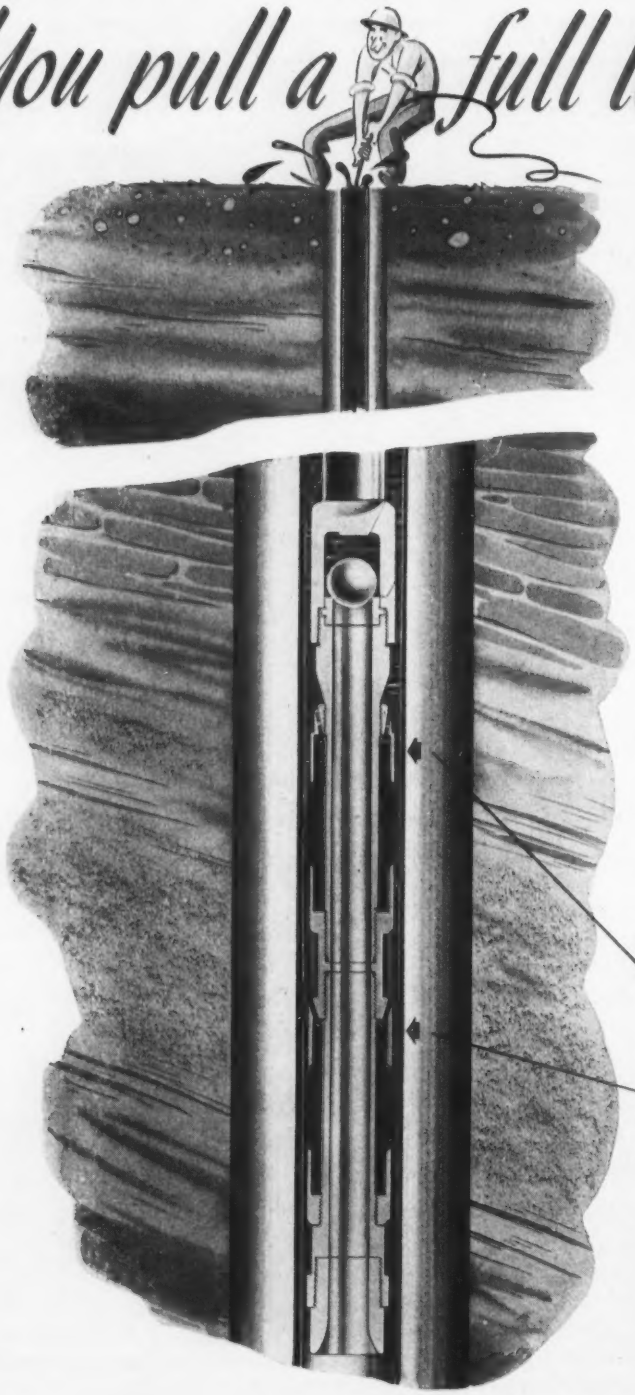
Williams Test Due

In line for testing is ground southeast of the Williams area in Kern County. The driller will be Continental Oil with its Continental-Texas Fee No. 1 on Sec. 8-28s-20e, one mile southeast of the nearest production.

Kettleman Hills Venture Working

Standard of California is continuing to work with its interesting S.F. & F.L. No. 4-2 on Sec. 12-25s-19e at Kettleman Hills South Dome. An Eocene test, the well flowed oil at a rate between 500 and 1000 barrels daily on production trial. It then showed a marked decline in pressures and flowed mostly water. Total depth is 12,954 ft.

You pull a full load every trip

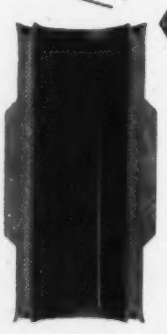


WITH A PATTERSON-BALLAGH SWAB

Regardless of the line speed, you can pull a light or heavy fluid load with the Patterson-Ballagh Deep Well Swab. Some operators require a gentle swab with a sensitive feel at slow line speeds, while others need to lift deep, heavy loads rapidly, making fast round trips.

The fast-dropping Patterson-Ballagh Swab fills both requirements because the swab rubber expands against the tubing wall with just the necessary pressure to keep the fluid from leaking on the trip out. There is no unnecessary wear on the rubbers at any time, because the pressure on the rubber groove assures the correct expansion.

The expansion of the rubber is such that only the lower half of rubber seal contacts the tubing wall. This means the swab rubbers may be reversed for double wear. This, plus the low initial cost of the Swab itself, makes this production tool an economical buy. For the best in low-cost swabbing, call your Patterson-Ballagh man.



CROSS SECTION OF SWAB RUBBER

The pressure exerted on this special rubber groove on the trip out aids the swab rubber in expanding against the tubing wall.

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DIVISION OF BYRON JACKSON CO.

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T.I.P.S.A., Santiago Del Estero 286, Buenos Aires, Argentina • A. R. Boyd, Edmonton, Alberta, Canada

Los Angeles Basin

Newhall-Potrero Adds Field Widener

General Exploration Company of California has completed an extension test in the Newhall Potrero field. It is Ferguson No. 5 on Sec. 36-4n-17w, which currently is putting out 300 barrels a day from 7283 ft. General has close to 750 acres in its Newhall-Potrero lease. Union Oil has an interest in the property. Completion of the Ferguson No. 5 marks the company's fifth producing well and also the shallowest in depth. The new producer is drawing from some 300 ft. of oil sand in the interval of 6966-7283 ft. A deeper zone probably would be productive in the well. However, rather than risk deeper drilling at this time, the operator evidently decided to tap the shallower zone.

Inglewood Test Drills

Shell Oil is drilling at 6435 ft. in its interesting prospect well at Inglewood, one mile south and west of the Crenshaw boulevard shopping district. The well, located on the southeast portion of Baldwin Hills, is likely to be carried to 10,000 feet or more in a search for new oil. Labeled Baldwin Hills No. 1 on Sec. 9-2s-14w, the well holds the attention of many residents in the area, of which 94 per cent are parties to a community lease. The lease is on several parcels of land blocked up by the company. Provided the well meets with commercial success, further development will be carried on by drilling directionally from one or two centrally located drilling sites. Standard of California was the first operator to find oil in the Inglewood-Baldwin Hill area with a well drilled in 1924.

Puente Wildcat Coring On Down

Standard of California at last reports was coring at 4250 ft. in its interesting wildcat well on the old William R. Rowland ranch, southeast of Puente. Known as Rowland Estate No. 1 in Sec. 21-2s-10w, the story should soon be told. Location is not far from a cluster of wells drilled by the old Puente Oil Company of which at one time William R. Rowland was president. Most of the major operating organizations have punched down test holes in the area at one time or another. The company's No. 87 on the Emery lease at West Coyote is spot coring at 10,950 ft. The deepest prior test well in the field was drilled 10 or 12 years ago.

Chino Hills Try Working

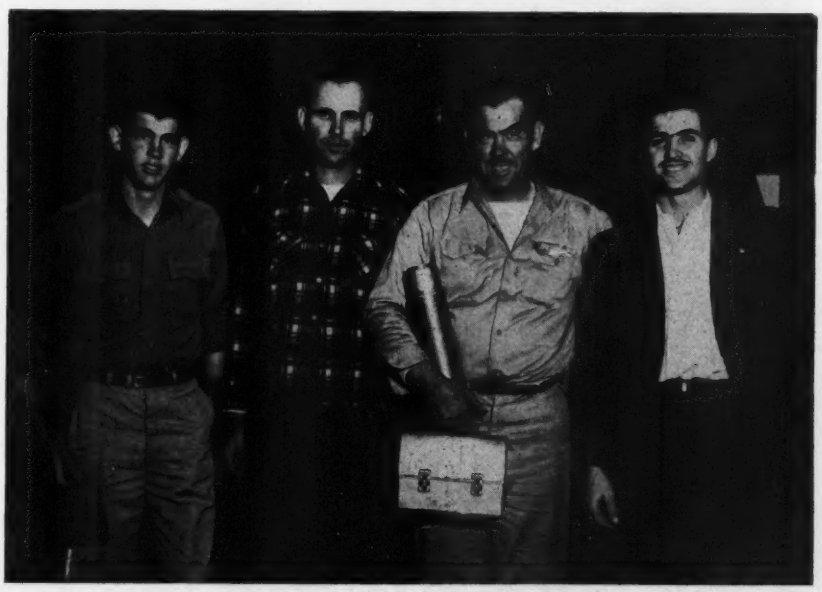
Heavier equipment is being rigged to Grayco Oil Company's Grayco No. 2 test at Chino Hills, Sec. 13-3s-8w, San Bernardino County. The hole at present is at the 4096-ft. level. Chino Hills Oil's Chino Hills No. 4, Sec. 33-2s-8w, is idling at 2056 ft.

Bouquet Canyon Try Drills Ahead

In Bouquet Canyon near Castaic, Carl R. Pohl & Associates' Pohl-Green No. 1 wildcat is making hole ahead at a depth approximating 1000 ft. What may have been uncovered of interest to present depth is a company secret.

Newhall Well Proves Failure

Universal Consolidated Oil Company has abandoned its Phillips No. 1, some 1000 ft. east of the Sherman pool finder on Newhall townsite. Drilled and cored to a depth of 5296 ft., the project on formation test showed a diminishing gas blow and recovery of watery mud and no oil. The Mint Canyon zone was interrogated. The Placerita Canyon sector near Newhall was the scene of some excitement in recent days due to the performance of the Ramon Samovia Juanita No. 1 on Sec. 31-4n-15w, which came in from 1835 ft. for 300 barrels of 22 gravity clean oil daily. The oil is of considerably higher gravity than produced from other wells in the shallow zones at Placerita Canyon and may be indicative of a new and separate structure. On the other hand, the opinion prevails among most scouts that the venture is a field extension. Location falls a half mile from the nearest previously developed production. Jean No. 1, on the same section and also sponsored Ramon Samovia, is drilling at 951 ft. A short distance south and west of the Juanita well, General Petroleum is starting Orwig



The Rocky Mountain Drilling Co. crew leaving British American and Humble Oil Co.'s Wayside Honor Farm No. 1 well at Castaic. Left to right: J. V. Baxter, cathead; C. E. Sparks, derrick; W. D. Baxter, driller, D. E. Eatmon, pipe racker.

No. 1 on Sec. 31-4n-15w. The surrounding terrain is dotted by no less than a dozen rigs operating at various stages.

Dominguez Try Coring

Union Oil is coring at 7960 ft. with its Morton-Union-Dominguez Estate No. 3 in Sec. 3-4s-13w in the Dominguez area.

San Fernando Wildcat Digs

On the Panorama Ranch property near the San Fernando reservoir, Universal Consolidated's No. 1 wildcat test is drilling at 8454 ft. Showings have been more or less absent to present depth.

Haskell Canyon Test Exploring

Prospecting has reached beyond the 2550-ft. level in Atlas Oil Company's Acosta No. 1 explorer in Haskell Canyon not far from Castaic in Sec. 24-5n-16w.

Athens Busy Territory

The Athens-Rosecrans area is the scene of a growing number of drilling jobs. Atlantic Oil's Stein No. 1 on Sec. 20-3s-13w is drilling at 3395 ft. J. Paul Getty's Howard Park Fee No. 3 on Sec. 12-3s-14w is making hole below 1100 ft. D. D. Feldman has reached a depth of 5785 ft. in Howard No. 1 on the section. Pacific Western's Geddes No. 1 on the same section is completing at a redrilled depth of 8572 ft. Original bottom is 8633 ft.

Beach Test Digging Deeper

In the vicinity of the Huntington Beach field, Humble Oil & Refining's Isenor No. 1 test continues to make hole ahead at 6400 ft. on Sec. 25-5s-11w, Orange County.

Brea Try Redrilling

In the Brea area of Orange County, Pacific Western's Brea Comm. No. 2-1 on Sec. 11-3s-10w is redrilling at 3586 ft. The hole went first directionally under the business center of the town to a depth of 8476 ft. This effort evidently offered some encouragement.

Long Beach Active Area

Hancock Oil's Signal No. 34, a shot for the De Soto zone on Sec 24-4s-13w at Long Beach is drilling at 9996 ft. Shell Oil has completed on the pump for an unestimated yield its Alamitos No. 52 on Sec. 29-4s-12w. Total depth is 892 ft. Acme Drilling's Bauerdorf No 1 on Sec. 24-4s-13w is drilling below 4000 ft. General Petroleum is making hole not far below grass roots with its Brennecke No. 4 on Sec. 19-4s-12w.

La Habra Well Drilling Ahead

On the Sansinena lease in the La Habra area, Union Oil is drilling at 3300 ft. with No. 18 well, Sec. 30-2s-10w. Much of the earlier development in the area was under the banner of Fullerton Oil Company.

PUMP SUCTION HOSE

PULL a steady flow of mud through your mud pumps. Goodall's "Spartan" pump suction hose is flexible, absorbs all pump vibration — follows the level of drilling mud as it varies in slush pit saving pipe adjustments.

Strong, abrasive resisting tube, reinforced construction — smooth bore assures long service. Available in 5' 8" lengths in 6", 8", 10", and 12" diameters. Available with built-in nipple if desired.

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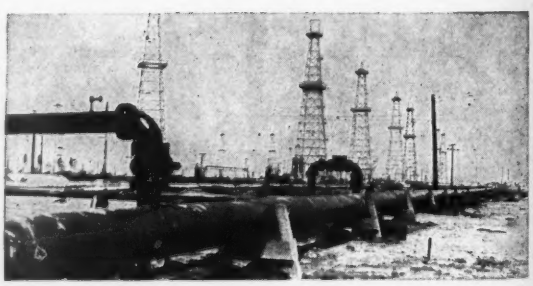
HOW LONG IS A PIPE LINE?



Measure it in labor time, and you'll discover that any pipe line is shorter when you use ARMCO Welded Steel Pipe.

That's because ARMCO Pipe is so easy to handle and install. The whole job goes along faster, smoother and more profitably. Lengths up to 40 feet mean fewer joints—there are just 132 in a mile. Even these go together quickly because the accurately beveled pipe ends simplify and speed field welding.

You can use ARMCO Welded Steel Pipe with complete confidence that it has the strength and durability to provide lasting service. Write for complete information.

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Personalities IN THE NEWS

Lane-Wells Transfers Three

Transfer of three Division Sales Engineers is announced by Lane-Wells Company, suppliers of technical oil field services.

J. Murray Walker, former head of the firm's Tulsa sales office is now assigned to the head office in Los Angeles as Export Sales Engineer, where he will assist in handling foreign trade for the company.

Replacing Mr. Walker in the Tulsa sales office is Mr. S. W. McGaha, formerly Division Sales Engineer-Geologist with the firm's Mid-Continent Division office in Oklahoma City.

John M. Terry, formerly District Sales Engineer in the Lane-Wells Pampa Sub-district, has been promoted to Division Sales Engineer and assigned to the Mid-Continent Division Office.

Lucian J. Harris was transferred from the Chicago Bridge and Iron Company Chicago Sales Office to their Los Angeles Sales Office on February 1, 1949.

Mr. Harris joined the organization at Birmingham in June, 1939, after graduating from Georgia Tech. He started in the Drafting room and was transferred to the Birmingham shop in December, 1939, where he worked principally on the expansion of plant facilities, until February, 1941, when he was transferred back to the office to assist Mr. Michaels, Plant Manager at that time.

In October, 1941, Lucian was called into active service in the Bureau of Yards and Docks, U. S. Navy, starting at the Charleston Navy Yard. Shortly thereafter, he was transferred to the Seabees and saw duty in the South Pacific. Returning to the U. S., he was Officer-in-Charge of Construction at Schenectady, N. Y.

In October, 1945, Mr. Harris was released from his Navy duties with the rank of Lt. Commander, CEC-USNR, and returned to Chicago Bridge and Iron Company at Birmingham. He was made Birmingham Chief Draftsman in January, 1946, and held that position until November, 1948, when he was transferred to the Chicago Sales Office.

W. R. Boyd, Jr., of New York, president of the American Petroleum Institute, was a recent visitor in California. During his stay in Los Angeles, he announced that the institute's 1950 convention will be held in Los Angeles the week of November 13. Boyd stated 3000 delegates, owners and managers of the nation's oil companies would be in attendance.

Wayne Glenn, Continental Oil, spoke on "The San Miguelito Field" at the meeting of the petroleum technology group of the AIME at Ethyl Auditorium, Los Angeles.

Thomas Wyatt Simmons, oilman, turf executive and manufacturer, has returned from a brief business trip to Athens, Greece, and Istanbul, Turkey. President of the Johnson Pump Company, his jaunt across the water was in connection with turbine pump deep well irrigation in the two countries. Johnson International, a division of Johnson Pump in Los Angeles, was recently awarded by the Government of India a contract for the boring of 3000 wells in that country. The pump organization was formed more than 40 years ago and is a prime developer in this type of irrigation. Simmons also is president of Bolsa Chica Oil and head of the Hollywood Turf Club.

A. K. Humphries, president of Pacific Coast Aggregates, and George N. Keyston, former president of the San Francisco Stock Exchange, are new directors of North American Oil Consolidated, San Francisco.

The officers and directors of the Los Angeles Chapter of Nomads, left to right: Bob Eiche, Regent; Fred Ripley, Past President; Ted Forsythe, Dep. Sergeant-at-arms; Tommy Johnston, Sergeant-at-arms, Lee Laird, President; Earle Boggess, Vice President; Jerry Engstrand, Past Assistant Sergeant-at-arms; By Landis, Past Secretary; Knight Templeton, Asst. Treasurer.

B. A. "Bart" Myers Honored At Long Beach Luncheon

A luncheon, given by Paul Cavins for Mr. B. A. Myers, retired Vice-President of International Petroleum Company, Toronto, Canada, a subsidiary of Standard of New Jersey, was the occasion for a get-together of many California friends and former co-workers of "Bart" Myers.

Mr. Myers was in charge of drilling and production in Colombia, Peru, and Ecuador, South America, and in Canada. He retired January 1, 1949, as Vice-President after forty-five years of service with the Standard Oil Company. He is now living at the Tulsa Club, Tulsa, Oklahoma, and is spending three weeks in California with Mr. and Mrs. A. Norcott before starting on a cruise to Honolulu. Mr. A. Norcott, General Manager of International Petroleum Company of Peru, South America, retired March, 1947, after twenty-seven years of service with the Standard Oil Company, and is now residing in Whittier, California.

Reading clockwise from far end of the table: Paul Cavins, The Cavins Company; R. J. (Bob) Eiche, R. J. Eiche & Associates; L. S. (Shorty) Hamer, Hamer Oil Tool Company; Jack Harpster, Security Engineering Company, Inc.; H. G. (Hal) Haney, Vice-President, Thomas Pike Drilling Company; S. P. (Price) Duffield, Thornbury Company; R. B. (Bob) Block, The Cavins Company; Harold Therolf Owner, Eason & Therolf Tool Company; G. W. (Waldo) Moore, Mgr. The Cavins Company; Onos Lindsay, Sales Manager, Eastman Oil Well Survey Corporation; T. J. (Tom) Martin, R. J. Eiche & Associates; Owen Lake, Export Manager, National Supply Company; William (Bill) Bettis, Vice-President, M. O. Johnston Company; Lee Chisholm, Manager Ventura Area, Shaffer Tool Works; K. E. (Kenny) Waggener, Supt., Shaffer Tool Works; Arnett Norcott, Retired Gen. Mgr., International Petroleum Company, Peru; B. A. (Bart) Myers, Retired Vice-President, International Petroleum Company, Canada.

Edwin W. Pauley, American Independent Oil and Signal Oil have signed contracts with the Mexican Government, which includes terms of the first tideland exploration in Mexico. The contracts cover exploration and drilling in Southern Vera Cruz and Tabasaco states.

Leigh Battson of the Doheny interest has left for a vacation tour of chief cities in Europe. Russ Havenstrite also plans a jaunt in that direction in the near future.

Ben Moyle, Long Beach oil producer and president of the Signal Hill Business Association, said the main objective of the organization is encouragement of golden rule principles. A concerted drive is to be made for memberships in the association, he announced.

Fred W. Grandall is in charge of General Petroleum's new branch office of the Employees Vernon Federal Credit Union at the company's Torrance refinery.

CLINTON C. STEWARD joined The Ralph M. Parsons Company in the capacity of Chief Engineer effective January 1, 1949. He replaced Mr. Elwood Layfield, who has been moved to the new position of Manager of Engineering and Construction.

Principal J. Wendell Howe of the Taft evening school announces that more than 50 men associated with oil field operations have enrolled for the short course in electric logging of wells.

Candid shots taken at the 10th Inaugural Ball, Los Angeles Chapter of Nomads

McCullough Introduces New Fluid Sampling Device

For the first time in the history of formation testing, according to the McCullough Tool Co., three consecutive tests were recently made in three different zones in a well and samples procured from each zone without removing the tester from the well and in 1/3 the time normally required for such a testing job.

This was accomplished by a new fluid sampling device that has recently been added to the surface recording pressure indicating equipment manufactured by the McCullough Tool Company, Los Angeles.

The three zones, at 2800′, 3400′ and 3800′, had previously been gun perforated. The tester was run in on a string of drill pipe, to a point immediately above the bottom holes. A sinker bar, that contained an electric connection and a sampling chamber, was then lowered through the operating string on a regular conductor cable.

A test was then made, and a sample recovered. The sample was recovered by first pulling on the conductor cable, to shear a set of shear pins, which allowed the telescoping sampling chamber to open and admit a quantity of fluid. Then upon continued upward pulling of the line, the latch that normally holds the sampling chamber down, was forced open, allowing the sampling chamber to be pulled from the hole.

The tester was then moved up the hole, where similar tests were made and samples taken at 3400′ and 2800′.

Since only one round trip was made with the tester itself, a great saving in time was effected. Three round trips would have been necessary if a conventional tester would have been used. The saving in time, therefore, amounts to 66-2/3 or 1/3 the time normally required for such a testing job.

Serviceman holding first three zone test chart ever made on the surface while the testing equipment itself remained in the well. This was made possible by the surface recording equipment on the left and a new fluid sampling device that can be lowered into the well, and samples taken as often as desired.

Chicago Bridge Now In G. P. Building

The Chicago Bridge & Iron Company announces the removal of their offices from the Wm. Fox Building to Suite 457-58, General Petroleum Building, 612 S. Flower Street, Los Angeles 14.

The new telephone number is MAdison 6-8651.

Standard Builds Pipe Line

Standard Oil Company of California has announced the awarding of a contract to Pacific Pipe Line and Engineers, Ltd., for construction of a $500,000, ten-inch pipe line over a ten-mile route between Wilmington and Torrance, California.

Work started March 10, with completion scheduled for mid-May. At Torrance the new line will connect with an existing line which extends to Standard's refinery at El Segundo.

The new line is expected to handle from 15,000 to 20,000 barrels of oil a day, and is being constructed to move the increasing amount of oil being produced in the Los Angeles Basin area.

E. L. Hunt, 65, drilled a well all by himself and got a producer. He performed the combined duties of roughneck, contractor, truck driver, swamper, toolpusher and driller. He loaded the equipment on a trailer and traveled 12 miles from his home in Shreveport, La., to property he owned. Hunt used an "A" shaped frame instead of a derrick and rotary rig, which was powered by a car engine. Ten days after the start of the drill, he completed a producer at 410 ft. Average yield is 25 barrels daily, the AAODC official publication reported.

Los Angeles Chapter AIME Host Visitors

On the evening of February 21, 1949, at the University Club, Los Angeles, Paul Andrews, Signal Oil & Gas Co., chairman of the Pacific Petroleum Chapter AIME, and the senior and junior officers of the local petroleum groups, were hosts to a sizable number of mid-Continent and eastern dignitaries, visiting briefly here on their way home from the AIME convention in San Francisco. Among those present were Dr. Donald Katz, professor of chemical engineering at University of Michigan, presently engaged on a special mission for Western Gulf; Dr. Morris Muskat, chief of the physics division of Gulf's research and development in Pittsburg, Pa.; Lloyd Elkins, national chairman of the petroleum branch of AIME, and production research director for Stanolind at Tulsa, Okla.; Dr. Dorsey Hager, consulting geologist, Phoenix, Ariz.; Lyon Terry, vice president of the Chase National Bank, New York, in charge of its oil interests; Bill Strang, national executive secretary, petroleum branch AIME, Dallas, Texas; Jack Dougherty and Ev Trostel, DeGolyer and McNaughton, Dallas, Texas; Herb Cooley, Bethlehem Supply Company, Tulsa, Okla.; Joe Alford, editor Petroleum Technology the journal of the AIME petroleum branch, Dallas, Texas.

Also present to entertain in his usual competent and affable manner was Chris Christanelli, Baroid's ambassador of goodwill and concertina swing. Chris made everybody join in the old time ballads and the result was the loudest if not the sweetest singing with which the University Club has ever been assailed. The only serious note of the evening was brought by that serious individual, Bill Geis, who presented a highly technical dissertation on the potency of the surface waters of the Black Hills.

During the evening, Paul took occasion to introduce all the distinguished visitors and allowed each one a few minutes to dilate on any subject. The results would have been somewhat surprising from any group other than oil men, but as it was it thoroughly entertained the diners with its amazing variety. Paul also announced before the parting came that the following had been appointed to office for the Fall Meeting, Oct. 20 and 21, 1949, at the Elks Club, Los Angeles: General Chairman, John Thacher, Standard of California; Program Chairman, John Sherborne, Union Oil Company; Arrangements Chairman, Ed Stroud, Signal Oil & Gas Co.; Exhibits Chairman, Ray Hancock, Lane-Wells Co. Other appointments announced were: In charge of field trips, Lowry Wadsworth, General Petroleum Corp.; Luncheon meetings chairman, Basil Kantzer, Union Oil Company; and Chairman of the Petroleum Technology committee, Charlie Gates, General Petroleum Corporation.

Including the announcements, it was a thoroughly enjoyable evening and Paul Andrews and his assisting arrangers are to be congratulated.

Four Deer Job Starts

Sunray Oil Corporation is starting another well in the Four Deer field, which it discovered two years ago. It is Los Flores No. 4 on Sec. 4-8n-33w.

South Mountain Well Producing

On Sec. 18-3n-20w at South Mountain in Ventura County, Texas Company has added a new producer its S. P. No. 49. Yield last reported was 310 barrels daily from a total depth of 4333 ft.

Tejon Well Drills Ahead

Steele Petroleum's Anniversary No. 1 in Sec. 10-11n-18w in the Tejon area is making progress with the drill near 500 ft. Location falls 600 ft. west of the company's Roco No. 1.

New Plant for Web Wilson

Web Wilson Oil Tools, Inc. have recently moved into their new, modern plant at 14905 South San Pedro Street, Los Angeles, California.

The new plant has three times more covered floor space than was available at the old location. Also, sufficient property is yet available to allow for expansion to many times its present floor space.

Outstanding features of the new plant include the scientific arrangement of productive machinery for straight-line flow of material from the new stock to the finished product. Efficient working conditions are supplemented by effective heating and lighting, both daylight and fluorescent. Ample working space assures safe machine operations.

Architects are now preparing plans for a new office building which will be completed during the current year at the plant site. At present the company administrative offices continue to be located in the Wilson Building in Huntington Park.

LAUGH THIS OFF!!

Student: Do married people really live longer than single ones?

Professor: I'm not sure, but it seems longer.

Nervous woman passenger (on bus): Driver, that man sitting across from me is a lunatic. He keeps muttering he's George Washington.

Driver: I'll take care of him. (Raising his voice) All out for Mount Vernon.

"How long have you been married?"

"Best part of a year."

"When was the wedding?"

"Ten days ago."

Teacher: Johnny, give me a sentence using the word "diadem."

Johnny: People who drive recklessly diadem sight quicker than those who stop, look and listen.

Father: "Know why I spanked you, son?"

Son: "Sure—you're bigger'n me."

"Shopping?"

"Yep. Trying to get something for the wife."

"Had any offers?"

"We've been married a year and never quarrel. If a difference of opinion arises and I'm right, my husband gives in."

"But what if he's right?"

"That has not yet occurred."

"I've insured my life for $10,000, so if anything happens to me, you'll be taken care of."

"Very thoughtful, dear. Now you won't have to see the doctor every time you feel sick, will you?"

Man motorist (barely avoiding broadside crash): "Why on earth didn't you signal?"

Girl (who had crossed into her own driveway): "I always turn here, stupid."

When Smith took a friend home to dinner, his wife gave him strict orders that he must not offer his guest sherry, as they had none in the house. But Smith forgot the injunctions.

"Won't you have a glass of sherry, old man?" he said. The guest turned very red, and stammered that he never drank it.

"What rubbish!' said Smith. "I know that's not true. Do try it."

"No, no. I would much rather not," he said imploringly and turned redder than ever.

When the evening was finished, and the guest had gone, Mrs. Smith said to her husband: "Why on earth did you press him to take sherry when I kept kicking you under the table to remind you there wasn't any?"

Smith looked at her, "It wasn't me you kicked, my dear," he said.

I bought a wooden whistle, but it
wooden whistle.
So I bought a steel whistle,
But steel it wooden whistle.
So I bought a lead whistle,
Steel they wooden lead me whistle.
So I bought a tin whistle,
And now I tin whistle.

"These eggs are very small," complained the housewife to her grocer.

"Straight from the farm this morning, madam," declared the grocer.

"That's the trouble with these farmers," she persisted. "They're so anxious to get their eggs sold that they take them off the nest too soon."

A lady was entertaining her friend's boy.

"Are you sure you can cut your meat?" she asked, after watching his struggles.

"Oh, yes," he replied, without looking up from his plate. "We often have it as tough as this at home."

Opportunity doesn't knock these days; it rings the phone and asks a silly question.—Sunshine Magazine.

JENSEN-Adaptable Versatile Efficient

Jensen is a pumping unit that takes practically any pumping problem in its stride. It operates efficiently on the power that is most convenient and economical in your field. It can be adjusted to balance any well with ease and economy. It is readily adaptable for varying stroke lengths and pumping speeds . . . to changes in power and capacity. This easy versatility of Jensen Pumping Units means better pumping performance, less "downtime" — economical insurance against costly work stoppages.

It will pay you to investigate Jensen. Your near-by Jensen dealer has convincing proof of Jensen versatility, or write to Coffeyville for illustrated, fact-filled literature. Do it today.

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3075 Cherry Ave., Long Beach, Calif.
Phone 481-81

JENSEN BROTHERS MFG. CO.

COFFEYVILLE, KANSAS, U.S.A.

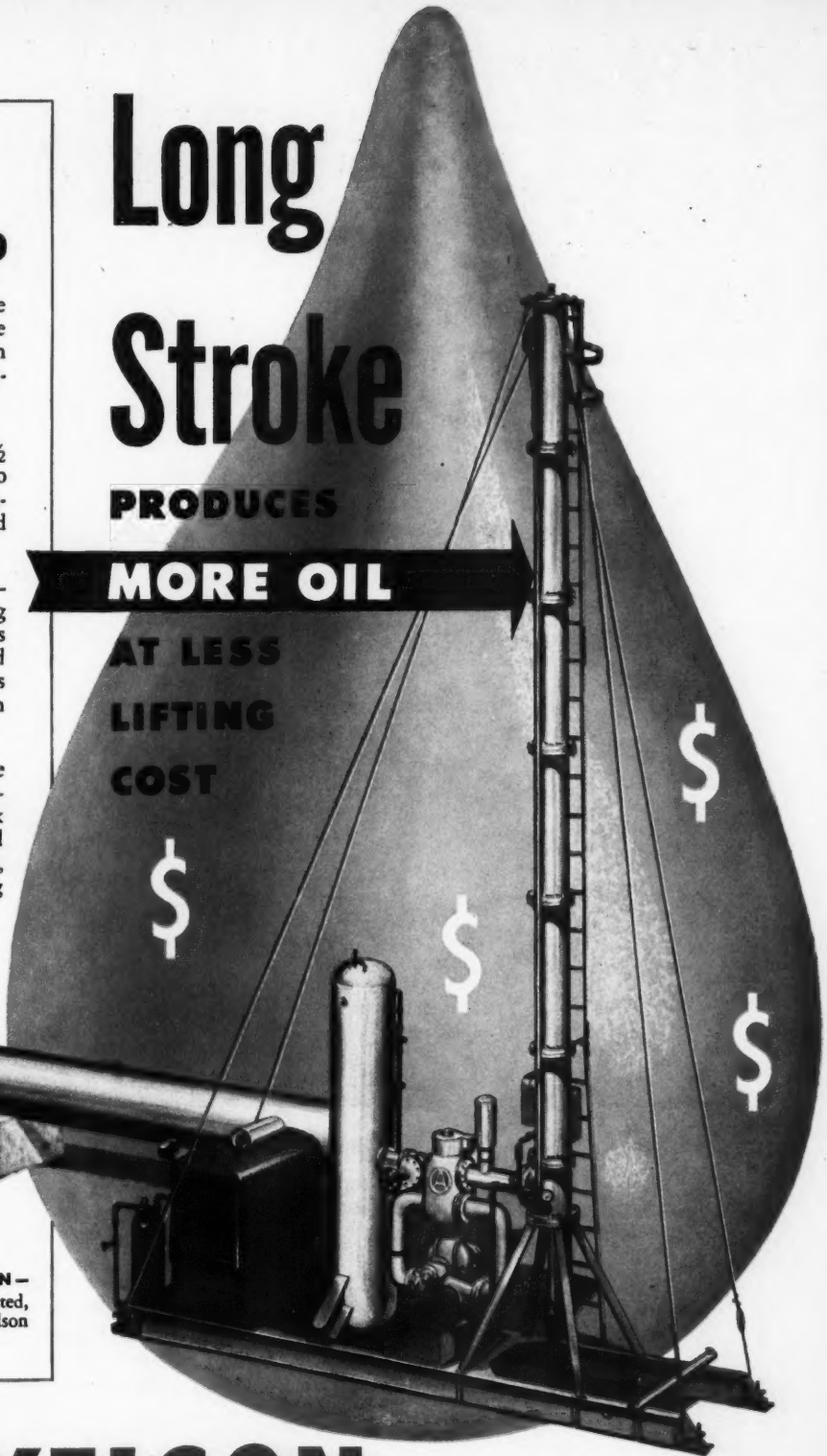
EXPORT OFFICE: 50 Church St., New York City

Long Stroke

PRODUCES

MORE OIL

AT LESS LIFTING COST



PRODUCTION CAN BE DOUBLED

Up to twice the production is possible when a conventional unit of short stroke and relatively fast speed is replaced with the long stroke of the Axelson Hydraulic Long Stroke Pumping Unit.

Increased Stroke Length — up to 26½ feet total — reduces stroke loss due to rod and tubing stretch, increases plunger travel, decreases frictional wear, and assists in handling gassy fluids.

Fewer Stroke Cycles per Minute — from 3 to 6 spm — reduces rod string reversals, decreases impulse load factors and problems created by second and third order synchronous speeds, permits operator to increase pump size or depth or lighten the rod string.

Longer Sucker Rod Life — because operational characteristics of the Axelson Long Stroke Unit reduce peak stresses, stress range and cycle rate, and provide cushioned power applications, thus effecting savings by eliminating down-time.

FOR MORE INFORMATION — write today for fully illustrated, completely descriptive Axelson Bulletin #4800.

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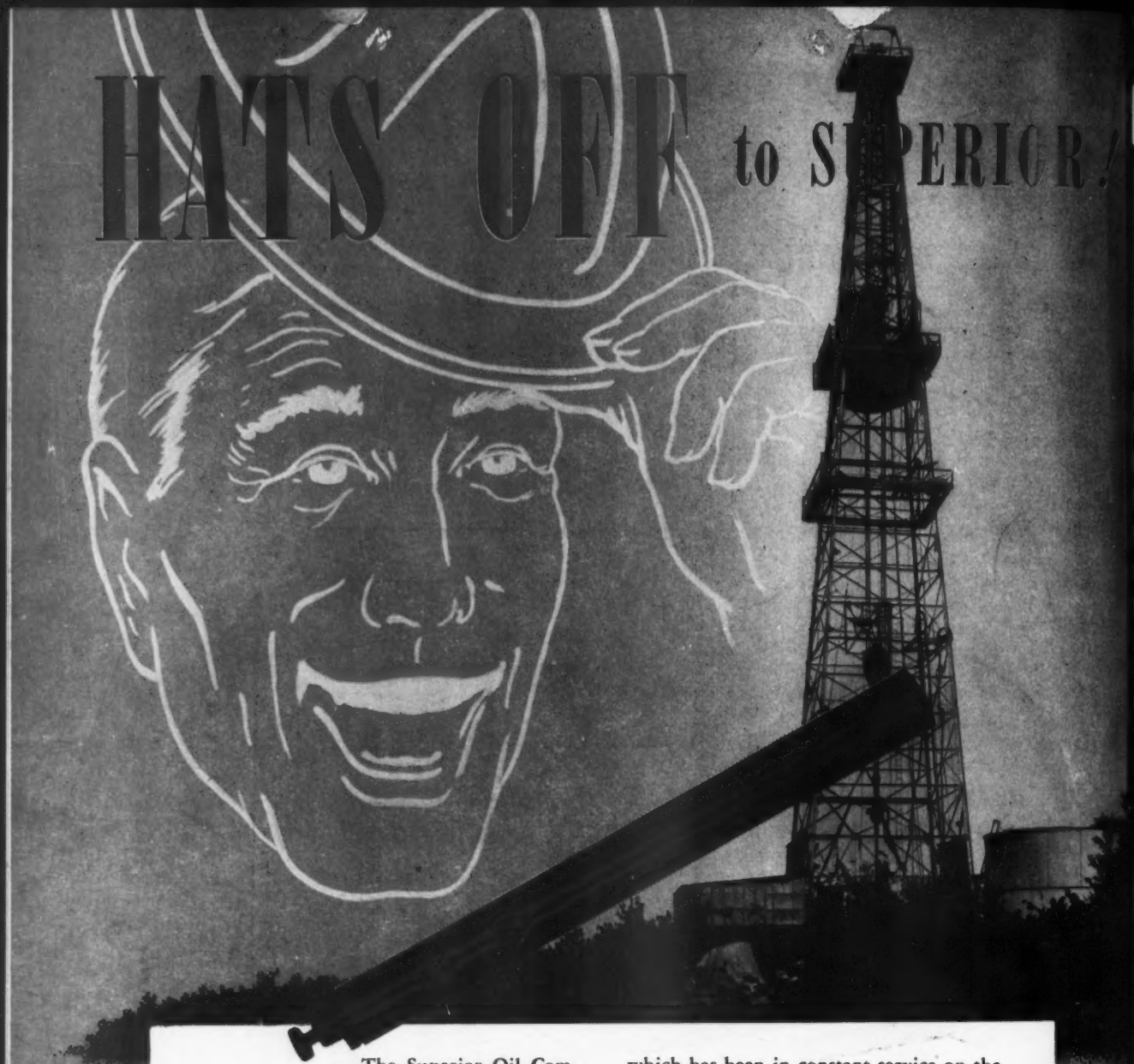

The Superior Oil Company has broken its own world's deep-drilling record—with the Limoneira #1 in Ventura County, California.

Three and a half miles down into the earth—and drilling still deeper—the straightness of the hole has been determined by the EXCLUSIVE use of the new type self-checking EASTMAN MECHANICAL DRIFT INDICATOR, which has been in constant service on the rig.

It takes skilled crews and rugged precision equipment to break records. EASTMAN takes pride in the fact that its MECHANICAL DRIFT INDICATOR, by securing perfect recordings at such great depth and at high temperatures, has had a part in the drilling of the world's deepest well.

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